FINAL

Environmental Impact Report for the Special Use District B Northeast Quadrant Specific Plan

SCH# 2015032102

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CHAPTER 1
EXECUTIVE SUMMARY

1.1 PROJECT UNDER REVIEW

This Draft Environmental Impact Report (EIR) evaluates the environmental impacts of the proposed Special Use District B (SUD-B) Northeast Quadrant Specific Plan (proposed project or Specific Plan) in the City of Lincoln (City). The proposed project includes development of a mixed-use village concept that includes residential, commercial, open space and recreation areas. A detailed description of the project and all its components is contained in Chapter 3, Project Description.

1.2 COMMENTS RECEIVED IN RESPONSE TO THE NOTICE OF PREPARATION

The City received a total of 22 comment letters. Environmental issues raised in the comments include the following:

Transportation

Caltrans requested that impacts to storage capacity for all approaches, specifically State Route 65/Nelson Road be evaluated as well as the potential for rear-end accidents, speed, and queuing. Caltrans also requested that the EIR evaluate a 10 year scenario for build out of the Specific Plan and the right-of-way for the Nelson Road interchange needs to be considered. Concerns from residents included the potential for an increase in traffic along 1st and 3rd Streets and double parking at the school. Hours of operation for construction was also a concern raised.

Air Quality

The Placer County Air Pollution Control District (APCD) submitted comments recommending the project consider prohibiting wood burning fireplaces, stoves and to prepare a Health Risk Assessment if sensitive uses are within 500 feet of any major roadway. Concerns raised by residents included odor concerns with agricultural uses and the Western Regional Sanitary Landfill and the wastewater treatment plant.

Noise

The Placer County Airport Land Use Commission stated that noise from aircraft in the area could affect outdoor activities and should be evaluated. Comments from residents included a request to extend the soundwall to the ravine for the Brookview homes and include a soundwall along Nelson Land to address traffic noise.

Land Use

The Placer County Airport Land Use Commission submitted comments requesting that the land use compatibility with the Lincoln Regional Airport and aircraft be evaluated and potential hazards from bird strikes be addressed. Residents requested that compatibility with agricultural uses as well as industrial uses in the area be evaluated.

Utilities and Public Services

Residents raised concerns regarding the drought and an increase in water demand to serve the project as well as the potential for an increase in water costs for all residents. Other concerns included adequate school capacity, increase in solid waste, and does the project provide adequate parks and recreation.

1.3 SUMMARY OF PROJECT ALTERNATIVES

CEQA requires that the lead agency adopt mitigation measures or alternatives, where feasible, to substantially lessen or avoid significant environmental impacts that would otherwise occur. Project modification or alternatives are not required, however, where significant environmental impacts will not occur.

The EIR evaluates the following alternatives to the proposed project:

No Project: This alternative assumes that the proposed project would not be built and there would be no new development of the site. This alternative assumes the site would remain undeveloped.

Expanded Park Alternative: Under the Expanded Park Alternative, an additional 5-acre park would be constructed on-site. This would require either a reduction in commercial acreage, or increased residential densities in other portions of the project site to maintain the 430 residential units in the proposed project.

Each of these alternatives are described in more detail and evaluated in Chapter 6, Alternatives, in addition to a discussion of the potential alternatives that were considered and dismissed as infeasible.

1.4 POTENTIAL ISSUES OF CONCERN AND ISSUES TO BE RESOLVED

The major areas of concern identified through the environmental scoping and evaluation process include noise and traffic impacts to existing neighborhoods.

The City must consider whether or not to approve the proposed project, or a project alternative.

1.5 SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION

Table 1-1, Summary of Impacts and Mitigation Measures has been organized to correspond with the environmental issues discussed in Chapter 4. The summary table is arranged in four columns, as follows:

1. Environmental impact
2. Level of significance before mitigation
3. Applicable mitigation, and
4. Level of significance after mitigation.

This Draft EIR assumes that all applicable plans, policies, and regulations would be implemented, including state laws and regulations, the City of Lincoln 2050 General Plan policies, and requirements or recommendations of the City of Lincoln and applicable building codes, City of Lincoln Design Criteria and Procedures Manual, and Lincoln Municipal Code. Applicable plans, policies, and regulations are identified and described in the Regulatory Setting of each technical issue area in Chapter 4 and within the relevant impact analysis. A description of the organization of the environmental analysis, as well as key foundational assumptions regarding the approach to the analysis, is provided in Chapter 4, Introduction to the Analysis.

Table 1-1
Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
Aesthetics			
Would the project have a substantial adverse effect on a scenic vista?	No Impact		
Would the project substantially damage scenic resources, including, but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway?	No Impact		
Would the project substantially degrade the existing visual character or quality of the site and its surroundings?	Less Than Significant		
Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	Potentially Significant Impact	**MM-AES-1** Commercial development shall avoid mirrored or highly reflective building finish materials, and shall avoid excessively bright upward lighting, such as search lights, laser light displays, or distracting lights that could be mistaken for airport lights.	Less Than Significant
Would the project have a cumulative effect on aesthetic resources?	Significant and Unavoidable		
Agriculture and Forestry Resources			
Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	~~Potentially Significant Impact~~ Less Than Significant	~~**MM-AG-1** For each acre of Important Farmland converted (including Prime Farmland and Farmland of Statewide Importance), the project applicant shall obtain Farmland at a ratio of 1:1 to be conserved in perpetuity. The Farmland conserved shall be of equal or greater quality, as determined by the best available soil survey information. The following methods of conservation are acceptable:~~ ~~• Participation in the Placer County Conservation Plan, if it is in effect at the time of this requirement.~~ ~~• Obtain title for the farmland (fee simple) and dedicate the land to a qualified open space or farmland trust organization.~~ ~~• Obtain an Agricultural Conservation Easement (ACE) that would remove the development rights from the property and preserve it for agricultural use. The ACE shall be held by a qualified land trust.~~	~~Significant and Unavoidable~~ Less Than Significant

Table 1-1
Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		~~A qualified land trust is one with a demonstrated ability to manage and maintain agricultural lands. The City of Lincoln shall solely determine whether or not an organization is qualified. This mitigation requirement shall be implemented prior to the recording of a Final Subdivision Map (or in the absence of a Subdivision Map, the filing of a Parcel Map) for any land within the project boundary that includes Important Farmland (as identified in the 2014 FMMP).~~	
Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?	Less Than Significant		
Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	Less Than Significant		
Would the project have a cumulative effect on agriculture and forestry resources?	Less Than Significant ~~and Unavoidable~~		
Air Quality			
Would the project conflict with or obstruct implementation of the applicable air quality plan?	Less Than Significant		
Would the project violate any air quality standard or contribute substantially to an existing or projected air quality violation?	Potentially Significant Impact	**MM-AQ-1** Prior to approval of any construction-related permits, the project applicant or its designee shall place the following requirements on all plans, which shall be implemented during grading of each phase of the proposed project to minimize NO_x and PM_{10} emissions: • Off-road heavy-duty diesel-powered construction equipment with engines rated as 75 horsepower or greater, shall be equipped with Tier 4 Final or better diesel engines, except where Tier 4 Final or better engines are not available for specific construction equipment. The City shall verify and approve all pieces within the construction fleet that would not meet Tier 4 Final standards;	Significant and Unavoidable

Table 1-1
Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		• Minimize simultaneous operation of multiple construction equipment units. During construction, vehicles in loading and unloading queues shall not idle for more than 5 minutes and shall turn their engines off when not in use to reduce vehicle emissions; • All construction equipment shall be properly tuned and maintained in accordance with manufacturer's specifications; • The use of electrical or natural gas-powered construction equipment shall be employed where feasible including forklifts and other comparable equipment types; • The use of catalytic reduction for gasoline-powered equipment shall be employed where feasible; • All diesel-fueled on-road construction vehicles shall meet the emission standards applicable to the most current year to the greatest extent possible. To achieve this standard, new vehicles shall be used, or older vehicles shall use post-combustion controls that reduce pollutant emissions to the greatest extent feasible; • In order to control dust, an operational watering truck shall be on site during construction hours. In addition, dry chemical sweeping is prohibited. Watering at the construction site shall be carried out in the compliance with operating Placer County Air Pollution Control District rules and City of Lincoln requirements; • Fugitive dust shall not exceed 40% opacity and not go beyond the project boundary at any time as required by District Rule 228 Fugitive Dust (Section 300). If lime or other drying agents are used to dry out wet grading areas, they shall be controlled so as to not exceed District Rule 228 Fugitive Dust limitations. The prime contractor shall be responsible for having an individual, CARB-certified to perform Visible Emissions Evaluations (VEE), who shall routinely evaluate compliance to Rule 228, Fugitive Dust on a weekly basis;	

Table 1-1
Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		• The prime contractor shall be responsible for keeping adjacent public thoroughfares clean of silt, dirt, mud, and debris, and shall "wet broom" the streets (or use another method to control dust as approved by the individual jurisdiction) if silt, dirt, mud or debris is carried over to adjacent public thoroughfares; • During construction, traffic speeds on all unpaved surfaces shall be limited to 15 miles per hour or less; • To control dust once grading is complete, the prime contractor shall apply methods such as surface stabilization, establishment of the vegetative cover, paving, or other methods approved by the City.vi. The prime contractor shall suspend all grading activities when wind speeds (including instantaneous gusts) are high (typically winds greater than 25 miles per hour), and dust is traveling offsite; • Stockpiles of dirt shall be covered when not being used or otherwise controlled to prevent erosion and/or dust. **MM-AQ-2** Application of low VOC coatings used for exterior and interior of all surfaces of at least 50 g/L, which is beyond the local requirements (Placer County Air Pollution Control District Rule 228, Architectural Coatings). **MM-AQ-3** To reduce operational emissions of ROG, NO_x, and PM_{10} emissions, the following Placer County Air Pollution Control District Standard Operational Air Quality Mitigation Measures shall be implemented as part of the proposed project's final design: • Diesel trucks shall be prohibited from idling more than five minutes. Prior to the issuance of a Building Permit, the applicant shall show on the submitted building elevations that all truck loading and unloading docks shall be equipped with one 110/208 volt power outlet for every two dock doors. Diesel Trucks idling for more than the allotted time shall be required to	

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Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		connect to the 110/208 volt power to run any auxiliary equipment. A minimum 2'x3' signage which indicates "Diesel engine Idling limited to a maximum of five minutes" shall be included with the submittal of building plans. • Prior to Design Review approval, the Site Plan shall show that the applicant has provided the number of preferential parking spaces for employees that carpool/vanpool/rideshare as required by the District. Such stalls shall be clearly demarcated with signage as approved by the Design Review Board. • Prior to Design Review approval, the applicant shall show that on-site bicycle racks will be provided as required by the District. **MM-AQ-4** For individual projects to be developed under the Specific Plan that exceed the Placer County Air Pollution Control District criteria air pollutant thresholds after implementation of on-site mitigation, the following measures shall be applied, as determined feasible through coordination with the Placer County Air Pollution Control District: • Establish mitigation off-site within the same region (i.e., City of Lincoln, western Placer County) by participating in an off-site mitigation program, coordinated through the Placer County Air Pollution Control District and/or by funding energy-efficiency measures (e.g., installation of insulation and/or dual pane windows in existing buildings), vehicle emission reduction measures (e.g.,replace diesel school buses with natural gas buses), and/or trip-reduction measures (e.g., bike lanes and/or NEV lanes on streets that do not have them); and/or • Participate in the District's Off-site Mitigation Program by paying the equivalent amount of money, which is equal to the proposed projects contribution of pollutants (ROG and NO_x), which exceeds the cumulative thresholds of 55 pounds per day. The	

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		actual amount to be paid shall be determined, and satisfied per current California Air Resource Board guidelines, at the time of recordation of the Final Map (residential projects), or issuance of a Building Permit (non-residential projects).	
Would the project result in a cumulatively considerable new increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative threshold emissions which exceed quantitative thresholds for ozone precursors)?	Significant and Unavoidable		
Would the project expose sensitive receptors to substantial pollutant concentrations?	Less Than Significant		
Would the project create objectionable odors affecting a substantial number of people?	Less Than Significant		
Would the project have a cumulative effect on air quality resources?	Significant and Unavoidable		
Biological Resources			
Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	Potentially Significant Impact	**MM-BIO-1** *Workers Environmental Awareness Program.* All workers shall receive worker environmental awareness training (WEAP) conducted by a qualified biologist or an environmentally trained construction foreman. WEAP may also be conducted through a video created by a qualified biologist specifically for this project. WEAP shall instruct construction workers to recognize all special-status species potentially present in the project area, identify their habitat, and the nature and purpose of protective measures including best management practices (BMPs) and other required mitigation measures described in the EIR. They shall also be instructed to avoid Markham and Auburn Ravines, prevent construction-related fuel spills, and receive contact information for the qualified biologist in the event a special-status species is harmed or identified during project construction.	Less Than Significant

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		MM-BIO-2 *Biological Monitor.* During project construction activities, a biological monitor shall monitor all construction activities in or adjacent to Auburn and Markham Ravines, as well as perform regular nesting bird surveys throughout the project area. The monitor shall have the authority to immediately stop any activity that is likely to impact special-status species or order any reasonable measure to avoid or minimize impacts to fish and wildlife resources. If any previously unknown special-status species are found within the project area during project construction, the monitor shall inform the USFWS and/or CDFW within 1 day, as appropriate for the species. **MM-BIO-3** *Wetlands and Waters of the U.S.* Wetlands and waters of the U.S. lost as a result of construction activities shall be replaced on a "no-net-loss" basis in accordance with USACE regulations and one of the following methods: a) If the PCCP is adopted and approved by the agencies, participation in the PCCP shall satisfy all mitigation requirements under CEQA. b) If the PCCP has not been adopted and approved by the agencies at the time the project applicants wish to proceed with permitting, the following process shall be used in planning for replacement: i. For new wetlands created on site in open space areas, a conceptual on-site wetlands mitigation plan shall be prepared by a qualified biologist pursuant to, and through consultation with, the USACE, including an agreed-upon replacement ratio of wetlands with the USACE. The mitigation plan shall quantify the total jurisdictional acreage lost, describe creation/replacement ratio for acres filled, annual	

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		success criteria, potential mitigation-sites, and monitoring and maintenance requirements. ii. The plan may include funding mechanisms for future maintenance of the wetland and riparian habitat, which may include an endowment or other funding from the project applicant. iii. For those acres of wetlands or waters of the U.S. lost to development that cannot be replaced on site, the project applicant shall compensate for the loss of wetland habitat through the purchase of mitigation credits at a USACE-approved mitigation bank or otherwise USACE-approved location. The ratio of compensation shall be determined in consultation with the USACE as part of the CWA Section 404 permit process, but shall not be less than 1:1.The project applicant may pay in-lieu fees to the U.S. Army Corps of Engineers (ACOE), CDFW, and Regional Water Quality Control Board according to their established fee structures to compensate for the removal of jurisdictional wetland features within the project area. Additionally, off-site permittee-responsible compensatory mitigation in the form of preservation, creation, enhancement or restoration will be accepted as outlined in the ACOE *Permittee-Responsible Mitigation Guidance May 26, 2016 (Draft)* document. iv. Prior to the City issuing a grading permit, the project applicant shall acquire the appropriate CWA Section 404 permit for filling of wetlands and other waters of the U.S. in the project area. In addition to the CWA Section 404 Wetland Fill permit, a CWA Section 401	

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		water quality certification shall also be required in conjunction with the Section 404 permit. v. For any construction activities affecting the bed, bank, or associated riparian vegetation of any streams or lakes subject to CDFW jurisdiction (such as Markham Ravine and Auburn Ravine), then a Streambed Alteration Agreement shall be obtained from CDFW, pursuant to Section 1600 of the California Fish and Game Code. If required, the project applicant shall coordinate with CDFW in developing appropriate mitigation, and shall abide by the conditions of any executed permits for any work related to on-site streams or associated riparian areas. **MM-BIO-4** *Native Oak Tree Planting*. The project applicant shall, to the extent feasible, design the project to retain protected trees and to protect on site trees during construction activities. If these trees cannot be retained in place, then the project applicant shall compensate for the loss of oaks on the project site based on the fee structure and guidance stated in the City of Lincoln Municipal Code. This may require either a fee payment to the City, or planting/establishment of native oak trees outside of the project area. **MM-BIO-5** *Location of Construction Activities*. Wherever feasible, construction and stockpiling of materials shall be located away from Markham and Auburn Ravines, outside of the 100-year floodplain, and other sensitive habitats, as determined by the qualified project biologist. In areas that cannot be feasibly avoided, the project biologist shall monitor the activity on a daily basis to ensure impacts to native wildlife are avoided. **MM BIO-6** *Rare Plant Surveys and Mitigation.* The project applicant shall retain a qualified biologist/botonist to conduct protocol-level plant surveys.	

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		Suitable habitat may occur on the northerly 72.6 acres of the project site for the following species: dwarf downingia (*Downingia pusilla*), Ahart's dwarf rush (*Juncus leiospermus* var. *ahartii*), Red Bluff dwarf rush (*Juncus leiospermus* var. *leiospermus*), and Legenere (*Legenere limosa*). The surveys shall be conducted during the appropriate blooming periods (May to November). These plant surveys shall be conducted in accordance with 2009 California Department of Fish and Wildlife (CDFW) rare plant survey protocols. The results of the survey shall be summarized in a report and submitted to CDFW and USFWS, and would be valid for two years. If rare plants are present and cannot be avoided, the project applicant compensate for the loss of habitat, either on-site or off-site at a minimum of ratio of 1:1. Mitigation for losses could include replacing the amount, type, and value of habitat lost to project construction through an accredited mitigation bank, if approved by USFWS and CDFW. **MM BIO-7** *Vernal Pool Crustacean Avoidance and Mitigation.* If suitable habitat for vernal pool crustaceans cannot be avoided during construction activities, the project applicant shall comply with applicable federal ESA regulations for mitigation of vernal pool crustaceans. The project applicant can either assume presence of vernal pool crustaceans within suitable habitat, or can conduct protocol-level surveys for vernal pool invertebrate species. The project applicant shall be responsible for offsetting the loss of any vernal pool crustacean habitat using one of the following methods: a) If the PCCP has been adopted by the County, the City, and approved by the agencies, the project applicant shall comply with the PCCP and that participation shall satisfy all of the mitigation requirements for this impact.	

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Summary of Project Impacts

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		b) If the PCCP has not been adopted by the County and City and/or has not been approved by the agencies, the extent of any necessary compensatory mitigation shall be determined in consultation with the USFWS, but shall not be less than 1:1. Typically, recommended mitigation for the loss of vernal pool crustacean habitat has been at a ratio of 2:1 acres for preservation and 1:1 acres for creation. **MM BIO-8** *Western Pond Turtle Avoidance and Relocation.* a) Prior to any work in suitable habitat, the project applicant/contractor shall arrange for a pre-construction survey for western pond turtles (WPT) to be conducted by a qualified biologist not more than 48 hours prior to the commencement of site disturbance. b) If WPT are determined to be present within the stream or pond, and the feature is to be retained, exclusionary fencing shall be used to prevent the turtle(s) from entering the construction area. The location of the fence shall be determined by a qualified biologist. Any turtles found in or near the construction zone shall be relocated to an appropriate area of suitable habitat a minimum of 100 feet from any active construction zone. Measures shall be implemented to ensure that the drainages or irrigation pond shall continue to provide adequate habitat for the WPT during and after construction by protecting water quality and ensuring that the reduction of drainage from the project site does not substantially diminish the water levels in the pond. c) If the stream or irrigation pond cannot be retained, the project applicant shall relocate any WPT found during surveys in a manner developed by a qualified biologist and approved by the CDFW to a suitable body of water in Placer County.	

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		MM BIO-9 Nesting Bird Avoidance. a) If construction would occur during the bird nesting season (generally March 1-August 30 for the native bird species likely to occur on the project site), a pre-construction nest survey shall be conducted within 14 days prior to the beginning of construction activities by a qualified biologist to identify active nests within 100 feet of construction activities (for songbirds) and within 300 feet for raptors. If active nests are found, a temporary buffer shall be established by a qualified biologist around the nest and all ground-disturbing and other construction-related activities shall be postponed/halted until the nest is vacated and juveniles have fledged and are no longer dependent upon the nest, as determined by the biologist from ongoing monitoring, and there is no evidence of a second attempt at nesting. The no-disturbance buffer shall generally be 100 feet for passerine bird species and 300 feet for raptor species (other than Swainson's hawk; see MM BIO-10) or as otherwise determined by the biologist taking into consideration such factors as topography, the type, duration, and extent of disturbance, and the species of bird potentially affected. The buffer zone shall be delineated by high visibility temporary construction fencing. If no active bird nests are identified within the survey area, no further mitigation would be required. b) A report shall be submitted to the City of Lincoln, following the completion of the bird nest survey that includes, at a minimum, the following information: i. A description of the methodology and results of the survey including dates of field visits, the names of survey personnel (and their qualifications), survey results, and a list of references cited and persons contacted.	

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		ii. A map showing the location(s) of any protected bird nests observed on the project site. **MM-BIO-10** *Swainson's Hawk Nest Avoidance and Mitigation*. a) The project applicant shall retain a qualified biologist to conduct a Swainson's hawk nest survey during the nesting season of the same calendar year that construction is expected to begin, and prior to the issuance of any grading permits. The survey shall be conducted pursuant to timing and methodology criteria outlined in the Swainson's Hawk Technical Advisory Committee 2000 survey protocol which includes all suitable nest habitat within ½ mile of the construction envelope. If this survey does not identify any nesting Swainson's hawk within the survey area, no further mitigation would be required. b) Should any active Swainson's hawk nests be located within the survey area, no construction activity (e.g., heavy equipment operation associated with construction, human activities, etc.) or other project-related activities that could cause nest abandonment or forced fledging, shall be initiated within 1/4-mile (buffer zone) of an active nest, or as otherwise determined by the biologist taking into consideration such factors as topography, the type, duration, and extent of disturbance, and the age of any young in the nest. Such activity shall be postponed until the nest is vacated and juveniles have fledged and are no longer dependent upon the nest, as determined by the biologist from ongoing monitoring, and there is no evidence of a second attempt at nesting. The buffer zone may be increased if, as determined by the biologist during ongoing nest monitoring, the adult birds exhibit behavior that could lead to unnatural prolonged absences from the nest or nest abandonment. The buffer zone shall be delineated by high visibility temporary construction fencing.	

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		c) Nest trees should not be removed to the extent feasible. If a nest tree must be removed, a Management Authorization (including conditions to off-set the loss of the nest tree) must be obtained from CDFW with the tree removal period specified in the Management Authorization, generally from October 1 to February 1. **MM BIO-11** *Swainson's Hawk Foraging Habitat Mitigation.* The project applicant, in consultation with CDFW, shall mitigate for loss of any Swainson's hawk foraging habitat by one of the following methods: a) If the PCCP has been adopted by the County, the City, and approved by the agencies, the project applicant shall comply with the PCCP and that participation shall satisfy all of the mitigation requirements for this impact. b) If the PCCP has not been adopted by the County and City and/or has not been approved by the agencies, the project applicant shall mitigate at a ratio of at least one acre of suitable foraging habitat for every one acre developed by the proposed project. The project applicant shall provide for the long-term endowment of compensatory mitigation lands by funding a management endowment (the interest on which shall be used for managing the mitigation lands) at a per acre rate (adjusted annually for inflation and varying interest rates). The project applicant shall submit a letter of approval from CDFW for the mitigation program for Swainson's impacts to the City of Lincoln prior to the issuance of grading permits. As an alternative, the project applicant may purchase conservation easements or fee title to suitable Swainson's hawk foraging habitat to protect the habitat from urban development, or purchase Swainson's hawk habitat credits at an agency-approved mitigation bank.	

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Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		MM-BIO-12 *Markham and Auburn Ravines.* Markham and Auburn Ravines shall both be avoided during project activities to reduce impacts of noise, light and habitat destruction to wildlife species that regularly use these areas for local migration, cover and foraging. For any work that would involve disturbance of Auburn or Markham Ravine the City shall ensure grading permits and/or improvements plans, as appropriate, include the following requirements: a) To the extent feasible, the project shall be designed to avoid direct or indirect impacts to Auburn or Markham Ravines, or to the water quality flowing to Auburn or Markham Ravines. If work in Auburn or Markham Ravines cannot be avoided, then the following mitigation measures shall apply. b) Restrict work in Auburn or Markham Ravines to low-flow periods between June 15 and October 15 to avoid effects on adult or juvenile steelhead and salmon life stages during their migratory seasons. c) Store all equipment outside of all waterways. Install a silt fence around the perimeter of all waterways where construction is to occur adjacent to waterways. The staging areas shall be situated a minimum of 50 feet from existing drainages. d) Install Environmentally Sensitive Area (ESA) fences in the vicinity of work along Auburn or Markham Ravines. The ESA fencing shall be delineated on the final plans and the fence shall be installed and remain on-site until the project is completed. e) Install silt fences and/or fiber rolls on the slopes adjacent to the work area to prevent silt from entering Auburn or Markham Ravines. f) If dewatering is necessary along portions of Auburn or Markham Ravines, use appropriate temporary coffer dams to dewater the construction sites and divert water through the area during the construction period to prevent impeding creek flow or water flow through the work areas. If dewatering at a site is	

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		required, a qualified biologist shall be present during the dewatering period to inspect and ensure that steelhead shall not be trapped within the temporary coffer dams. If steelhead are found, a qualified biologist shall capture and relocate these fish to an appropriate area away from the construction site. The project applicant or their representative shall submit for approval the dewatering and fish capture and relocation plans to the NOAA and CDFW once the design plans are finalized. g) Maintain erosion controls during the construction periods. h) At the completion of the construction project, remove from the streambed all materials used to maintain flow and divert water from the area during the construction period, including coffer dams, pipes, filter fabric, and gravel. i) Dispose of all excess soil at an approved upland site. j) Remove all project-introduced material once the work is complete. k) Recontour any disturbed stream channel areas, to the extent practicable, to pre-project conditions or better. l) Use reflectors on portable light trees to focus the light on the work area and to minimize the amount of light spilling over to adjacent areas during any night work.	
Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	Potentially Significant Impact	Mitigation Measures BIO-1, BIO-2, BIO-4, BIO-5, and BIO-12 (see above).	Less Than Significant
Would the project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	Potentially Significant Impact	Mitigation Measure BIO-3 (see above).	Less Than Significant

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Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	Potentially Significant Impact	Mitigation Measure BIO-12 (above). **MM BIO-13.** *Wildlife Movement Corridor Protection*. To the extent feasible, construction of the project's open space shall be designed to minimize the restriction of wildlife movement through the project area, specifically along and through Markham and Auburn Ravines. This shall include design measures that provide the greatest amount of space feasible underneath bridge or culvert structures such that wildlife species are not forced to cross roadways or move into urban areas to move from one area of natural habitat to another. All outdoor lighting associated with the project shall be designed to minimize light pollution into the open space or adjoining undeveloped land, except where it is necessary for public safety or security. Minimization measures may include light fixture placement (e.g., as low to the ground as possible), lamp designs (e.g., shielding, low glare, or no lighting), directing light away from open space or undeveloped lands, or other means to avoid or minimize light pollution.	Less Than Significant
Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	Potentially Significant Impact	Mitigation Measure BIO-4 (see above).	Less Than Significant
Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	Less Than Significant		
Would the project have a cumulative effect on biological resources?	Potentially Significant Impact	Mitigation Measure BIO-1 through BIO-13 (see above).	Less Than Significant
Cultural Resources			
Would the project cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5?	Less Than Significant		

Table 1-1
Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5?	Potentially Significant Impact	**MM-CUL-1 Discovery of Archaeological / Paleontological Resources:** In the event that archaeological / paleontological resources are discovered during ground disturbing activities, 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 applicant shall immediately notify the City of Lincoln Community Development Director, who will coordinate investigation of the site with a qualified archaeologist or paleontologist as needed to assess the resource (i.e., whether it is a "historical resource", a "unique archaeological resource", or "unique paleontological resource") and provide proper management recommendations should potential impacts to the resource be found to be significant. Possible management recommendations for historical or unique archaeological/paleontological resources could include resource avoidance or, where avoidance is infeasible in light of the project or is unnecessary to avoid significant effects, data recovery excavations. In consultation with the qualified staff, the contractor shall implement any measures deemed by the Community Development Director to be necessary and feasible to avoid or minimize significant effects to the resource.	Less Than Significant
Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	Potentially Significant Impact	Mitigation Measure CUL-1 (see above).	Less Than Significant
Would the project disturb any human remains, including those interred outside of formal cemeteries?	Potentially Significant Impact	**MM-CUL-2 Accidental Discovery of Human Remains.** Pursuant to Section 5097.98 of the California Public Resources Code and Section 7050.5 of the California Health and Safety Code, as well as California Environmental Quality Act Guidelines Section 15064.5(e), in the event of the discovery of human remains, work shall be suspended within 100 feet of the find, and the Placer County Coroner/Sherriff and the City of Lincoln Community Development Director shall be immediately notified. The County Coroner/Sherriff will determine if an investigation is necessary. If the remains are determined to be Native American:	Less Than Significant

Table 1-1
Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		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 descendent (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. If the Native American Heritage Commission is unable to identify a descendant or the descendant failed to make a recommendation within 24 hours after being notified by the commission, the City and/or County will notify the United Auburn Indian Community (UAIC) Tribal Council and solicit their input prior to allowing work to resume.	
Would the project have a cumulative effect on cultural resources?	Less Than Significant		
Geology and Soils			
Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area based on other substantial evidence of as known fault. (Refer to Division of Mines and Geology Special Publication 42); strong seismic ground shaking; seismic-related ground failure, including liquefaction; or landslides?			
i. Faulting	Less Than Significant		
ii. Strong seismic ground shaking	Less Than Significant		
iii. Seismic related ground failure including liquefaction	Less Than Significant		

Table 1-1
Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
iv. Landslides	Less Than Significant		
Would the project result in substantial soil erosion or the loss of topsoil?	Less Than Significant		
Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	Potentially Significant Impact	**MM-GEO-1** The following notes, or recommendations of the design-level geotechnical report, whichever is more detailed and stringent, will be included on project plans to be approved by the Building Division of the City of Lincoln Community Development Department prior to receipt of grading and building permits: • The upper 18 inches of subgrade at building pads, sidewalk, pavements, and concrete flatwork shall be replaced with compacted on-site soils with low to very low expansion potential and/or non-expansive imported engineered fill mixed with lime. • On-site soils and imported engineered fill to be used to replace expansive clays shall be evaluated/tested and approved by project geotechnical engineer prior to establishment of fill pads during construction. • Subgrade soil replacement/lime treatment shall extend to at least 5 feet (horizontally) from the outer edge of the footings and 2 feet (horizontally) from the outer edge of flatwork, sidewalks, and pavement. • Footings shall be constructed with a minimum 24-inch embedment below the lowest adjacent grade. • If soils are treated with lime, lime treatment shall be performed by a specialty contractor experienced in this work and in accordance with Caltrans Standard Specifications. • If soils are treated with lime, lime treatment submittal (including proposed equipment, materials, and construction procedures) shall be provided to applicant's geotechnical engineer for review at least 2 weeks prior to construction.	Less Than Significant

Table 1-1
Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		• If soils are treated with lime, Plasticity Index and Expansion Index tests shall be performed on lime-treated soils during construction to assure that they meet the project requirements. • If soils are treated with lime, lime-treated soils shall be removed from landscape areas.	
Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	Potentially Significant Impact	Mitigation Measure GEO-1 (see above).	Less Than Significant
Would the project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	No Impact		
Would the project have a cumulative effect on geological and/or soil resources?	Less Than Significant		
Greenhouse Gas Emissions			
Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	Potentially Significant Impact	**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).	Significant and Unavoidable

Table 1-1
Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		• 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.	

Table 1-1
Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation

		• 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:
		  o 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 percent of FTE staff (measured at peak periods), or
		  o 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.
		  o Install two 110/208 volt power outlets for every two loading docks.	

Table 1-1
Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		○ 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 percent 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.	
Would the project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	Potentially Significant Impact	Mitigation Measure GHG-1 (see above).	Significant and Unavoidable
Hazards and Hazardous Materials			
Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	Less Than Significant		
Would the project 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?	Less Than Significant		
Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	Less Than Significant		

Table 1-1
Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
Would the project 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?	Less Than Significant		
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?	Potentially Significant Impact	Mitigation Measure AES-1 and Mitigation Measure LU-1.	Less Than Significant
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?	No Impact		
Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	Less Than Significant		
Would the project expose people or structures to a significant risk of loss, injury or death involving wildland fires, including, where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	Less Than Significant		
Would the project have a cumulative effect on hazards or hazardous materials resources?	Less Than Significant		
Hydrology and Water Quality			
Would the project violate any water quality standards or waste discharge requirements?	Potentially Significant Impact	**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	Less Than Significant

Table 1-1
Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		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	

Table 1-1
Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		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-3** Implement Mitigation Measure BIO-12. Refer to Section 4.4.	

Table 1-1
Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
Would the project 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?	Less Than Significant		
Would the project 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?	Potentially Significant Impact	Mitigation Measure HYD-1 (see above).	Less Than Significant
Would the project 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?	Potentially Significant Impact	Mitigation Measure HYD-1 (see above).	Less Than Significant
Would the project 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?	Less Than Significant		
Would the project otherwise substantially degrade water quality?	No Impact		
Would the project 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.	Less Than Significant		

Table 1-1
Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
Would the project place within a 100-year flood hazard area structures which would impede or redirect flood flows.	Potentially Significant Impact	**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.	Less Than Significant
Would the project have a cumulative effect on hydrology or water quality resources?	Potentially Significant Impact	Mitigation Measure HYD-1, HYD-2, and HYD-3 (see above).	Less Than Significant
Land Use			
Would the project physically divide an established community?	Less Than Significant		
Would the project 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?	Potentially Significant Impact	**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.	Less Than Significant

Table 1-1
Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
Would the project conflict with any applicable habitat conservation plan or natural community conservation plan?	No Impact		
Would the project have a cumulative effect on land use resources?	No Impact		
Noise			
Would the project 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?	Potentially Significant Impact	**MM-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 4.1102 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. **MM-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	Less Than Significant

		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. **MM-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. **MM-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	

Table 1-1
Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		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.	
Would the project result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	Less Than Significant		
Would the project result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	Potentially Significant Impact	Mitigation Measure NOI-1 through NOI-3 (see above).	Less Than Significant
Would the project result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	Potentially Significant Impact	Mitigation Measure NOI-2 through NOI-4 (see above).	Less Than Significant
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 expose people residing or working in the project area to excessive noise levels?	Less Than Significant		
For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	No Impact		
Would the project have a cumulative effect on noise resources?	Potentially Significant Impact	Mitigation Measure NOI-1, NOI-2, NOI-3, and NOI-4 (see above).	Less Than Significant

Table 1-1
Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
Population and Housing			
Would the project 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)?	Less Than Significant		
Would the project displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	No Impact		
Would the project displace substantial number of people, necessitating the construction of replacement housing elsewhere?	No Impact		
Would the project have a cumulative effect on housing and/or population resources?	Less Than Significant		
Public Services			
Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:			
i. Fire protection?	Less Than Significant		
ii. Police protection?	Less Than Significant		
iii. Schools?	Less Than Significant		
iv. Parks?	Less Than Significant		
v. Other public facilities?			
Would the project have a cumulative effect on public services resources?	Less Than Significant		

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Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
Recreation			
Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	Less Than Significant		
Would the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	Potentially Significant Impact	**MM-REC-1** The Project Applicant shall pay in-lieu fees for the construction of parks and recreational facilities in the vicinity of the proposed project. These fees shall be determined according to the City of Lincoln Municipal Code Chapter 17.32, after considering park and open space facilities to be constructed on the project site. The fee amount shall be based upon the fair market value of the outstanding acreage of dedicated park land required by Municipal Code Section 17.32.040, according to the increase in population generated by the proposed project. The fair market value shall be determined at the time of filing the tentative map or parcel map.	Less Than Significant
Would the project have a cumulative effect on recreation resources?	Potentially Significant Impact	Mitigation Measure REC-1 (see above).	Less Than Significant
Traffic and Circulation			
Would the project conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance or the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	Potentially Significant Impact	**MM-TRA-1** Project applicant shall contribute to the installation of a traffic signal at the intersection of Nicolaus Road and Nelson Lane/Aviation Boulevard. These improvements are included in the proposed update to the City's PFE fee program. If the PFE program is adopted prior to the issuance of building permits, the PFE payment will satisfy this requirement. If the PFE update is not adopted prior to the issuance of building permits, the City may require the project applicants to construct the improvements and pay the project's fair share of the intersection improvement cost. The City would provide the project applicant with a right of reimbursement from third parties who also benefit from the improvements.	Less Than Significant

Table 1-1
Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		MM-TRA-2 Project applicant shall contribute to the provision of separate northbound and southbound right turn lanes at the intersection of Joiner Parkway and First Street. These improvements are included in the proposed update to the City's PFE fee program. If the PFE program is adopted prior to the issuance of building permits, the PFE payment will satisfy this requirement. If the PFE update is not adopted prior to the issuance of building permits, the project applicant shall pay the project's fair share of the improvement costs. **MM-TRA-3** Project applicant shall contribute toward the provision of a protected eastbound right turn movement at the intersection of Joiner Parkway and Nicolaus Road. These improvements are included in the proposed update to the City's PFE fee program. If the PFE program is adopted prior to the issuance of building permits, the PFE payment will satisfy this requirement. If the PFE update is not adopted prior to the issuance of building permits, the project applicant shall pay the project's fair share of the improvement costs. **MM-TRA-4** Project applicant shall contribute toward the construction of a grade-separated interchange to replace the current intersection of Nelson Lane and State Route 65. These improvements are included in the proposed update to the City's PFE fee program. If the PFE program is adopted prior to the issuance of building permits, the PFE payment will satisfy this requirement. If the PFE update is not adopted prior to the issuance of building permits, the project applicant shall pay the project's fair share of the improvement costs. **MM-TRA-5** Project applicant shall contribute toward the provision of a channelized protected eastbound right turn movement at the intersection of State Route 65 southbound ramps and Ferrari Ranch Road. These improvements are included in the proposed update to the City's PFE fee program. If the PFE program is adopted prior to the issuance of building	

Table 1-1
Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
		permits, the PFE payment will satisfy this requirement. If the PFE update is not adopted prior to the issuance of building permits, the project applicant shall pay the project's fair share of the improvement costs. **MM-TRA-6** Project applicant shall contribute toward improvements to the Twelve Bridges Northbound Off-Ramp. The PFE program includes restriping the northbound off-ramp converting the existing shared through-right turn lane to a shared through-left turn lane. If the PFE program is adopted prior to the issuance of building permits, the PFE payment will satisfy this requirement. If the PFE update is not adopted prior to the issuance of building permits, the project applicant shall pay the project's fair share of the improvement costs.	
Would the project conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	No Impact		
Would the project result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	Less Than Significant		
Would the project substantially increase hazards due to a design feature (e.g., sharp curves, or dangerous intersections) or incompatible uses (e.g., farm equipment)?	Less Than Significant		
Would the project result in inadequate emergency access?	Less Than Significant		

Table 1-1
Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
Would the project conflict with adopted policies, plans, or programs regarding public transit, bicycles, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	Less Than Significant		
Would the project have a cumulative effect on traffic and/or circulation resources?	Potentially Significant Impact	Mitigation Measures TRA-2 through TRA-6 (see above).	Significant and Unavoidable
Urban Decay			
Would the project cause urban decay resulting from significant adverse physical impacts related to economic effects?	Less Than Significant		
Would the project, combined with other cumulative development, result in a cumulatively considerable contribution to urban decay resulting in adverse physical impacts related to economic effects?	Less Than Significant		
Utilities and Service Systems			
Would the project exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	Less Than Significant		
Would the project require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	Less Than Significant		
Would the project require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction or which could cause significant environmental effects?	Less Than Significant		

Table 1-1
Summary of Project Impacts

Environmental Topic	Impact?	Mitigation Measure(s)	Level of Significance After Mitigation
Would the project have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	Less Than Significant		
Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	Less Than Significant		
Would the project be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	Less Than Significant		
Would the project comply with federal, state, and local statutes and regulations related to solid waste?	Less Than Significant		
Would the project have a cumulative effect on utilities and/or service systems resources?	Less Than Significant		

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CHAPTER 2
INTRODUCTION

2.1 PURPOSE AND INTENDED USE OF THIS EIR

The City has prepared this ~~Draft~~ Environmental Impact Report (~~Draft~~ EIR) to inform the general public, the local community, responsible agencies, trustee agencies, and other interested public agencies, and the City's decision-making bodies (Planning Commission and City Council) regarding the potential significant environmental effects resulting from implementation of the proposed Special Use District B (SUD-B) Northeast Quadrant Specific Plan Project (proposed project or specific plan), as well as possible measures to mitigate those significant effects and alternatives to the proposed project. This ~~Draft~~ EIR was prepared in compliance with the California Environmental Quality Act (CEQA) (California Public Resources Code, Section 21000 et seq.), the CEQA Guidelines (14 CCR 15000 et seq.), and the City's procedures for implementing CEQA. This ~~Draft~~ EIR is a "Project EIR," pursuant to CEQA Guidelines Section 15161. A Project EIR examines the environmental impacts of a specific project. This type of EIR focuses on the changes in the environment that would result from implementation of the project, including construction and operation.

As described in CEQA Guidelines Section 15121(a), an EIR is an informational document that assesses potential environmental impacts of a proposed project, as well as identifies mitigation measures and alternatives to a proposed project that could reduce or avoid adverse environmental impacts. As the CEQA lead agency for this project, the City is required to consider the information in the EIR along with any other available information in deciding whether to approve the project entitlements requested. The basic requirements for an EIR include providing information that establishes the environmental setting (or project baseline), and identifying environmental impacts, mitigation measures, project alternatives, growth inducing impacts, and cumulative impacts. In a practical sense, an EIR functions as a method of fact-finding, allowing an applicant, the public, other public agencies, and agency staff an opportunity to collectively review and evaluate baseline conditions and project impacts through a process of full disclosure. Additionally, this EIR provides the primary source of environmental information for the lead agency to consider when exercising any permitting authority or approval power directly related to implementation of this project. It is not the intent of an EIR to recommend either approval or denial of a project.

2.2 PROJECT BACKGROUND AND OVERVIEW

The City of Lincoln requires preparation of a specific plan prior to development in any area of the City designated a SUD. The 198.4-acre project area is part of a larger planning area, SUD-B, containing 1,844 acres. Instead of adopting a single specific plan for the entire 1,844 SUD-B planning area, the City determined that the SUD-B Northeast Quadrant portion could proceed with the entitlement process separate from the remainder of the SUD-B planning area. Thus, the project

applicant has prepared a specific plan (per Government Code Section 65450 et seq.) showing the location and type of land uses proposed, the infrastructure required to support the proposed land uses, and a funding and phasing plan for the development. The City is also currently processing an application for a General Plan Amendment, Specific Plan, General Development Plan and Annexation of the balance of the SUD-B planning area and the Village 5 planning area. The Village 5 Specific Plan will not have jurisdiction over the SUD-B Northeast Quadrant – although both plans must be consistent with the City of Lincoln General Plan 2050.

The SUD-B Northeast Quadrant Specific Plan would provide for a mixed use village concept that includes low density residential comprised of single family detached homes located along the eastern boundary of the Plan Area. Approximately 69.7 acres of land would be designated for commercial uses, 22.6 acres of open space and 4.0 acres of park / active recreation uses. The proposed plan is further described in Chapter 3, Project Description.

2.3 EIR PROCESS

Notice of Preparation

In accordance with CEQA Guidelines Section 15082, a Notice of Preparation (NOP) was circulated for public and agency review from April 1 through April 30, 2015 (included as Appendix A). The purpose of the NOP was to provide notification that an EIR for the proposed project was being prepared and to solicit guidance on the scope and content of the document. A summary of the comments received on the NOP is included in the Executive Summary, as well as in the introduction of each technical section in Chapter 4.

Pursuant to CEQA Guidelines Section 15082, the lead agency held a public scoping meeting on April 15, 2015. Responsible agencies and members of the public were invited to attend and provide input on the scope of the EIR. Comments from agencies and the public in response to the NOP are provided in Appendix A. General concerns and issues raised in response to the NOP are summarized in the Executive Summary and addressed in the technical sections in Chapter 4.

Draft EIR and Public Review

~~This~~ The Draft EIR ~~is being~~ was circulated for public review and comment for a period of 45 days. The beginning and end dates of the comment period are identified in the Notice of Availability for ~~this~~ the Draft EIR. ~~Written comments may be addressed to:~~

~~Steve Prosser, Planning Manager~~
~~City of Lincoln, Community Development Department~~
~~600 Sixth Street~~
~~Lincoln, California 95648~~
~~Email: steve.prosser@lincolnca.gov~~

A public hearing to receive comments on the Draft EIR was held by the Planning Commission on October 17, 2018. One or more public hearings will be held as part of the City Council's consideration of the adequacy of the EIR.

The public can review the ~~Draft~~ Final EIR and supporting documents at the following address during normal business hours (Monday through Friday, 8 a.m. to 4 p.m.) or on the City's website athttp://www.ci.lincoln.ca.us/city-hall/departments-divisions/community-development/environmental-documents.

City of Lincoln
Community Development Department
600 Sixth Street
Lincoln, California 95648

Final EIR and EIR Certification

Upon completion of the Draft EIR public review period, ~~a~~ this Final EIR ~~will be~~ has been prepared ~~that will~~ and includes written comments on the Draft EIR received during the public review period and the City's responses to those comments. The Final EIR ~~will~~ also includes the Mitigation Monitoring and Reporting Program (MMRP) prepared in accordance with Section 21081.6 of the Public Resource Code. The Final EIR ~~will address any~~ includes revisions to the Draft EIR made in response to agency or public comments. The Draft EIR and Final EIR together will comprise the EIR for the proposed project. Before the City can approve the project, it must first certify that the EIR has been completed in compliance with CEQA, that the City Council has reviewed and considered the information in the EIR, and that the EIR reflects the independent judgment of the City. The City Council also would be required to adopt Findings of Fact and a Statement of Overriding Considerations (for any significant and unavoidable impacts) explaining the decision to balance the benefits of the project against unavoidable environmental impacts if it approves the proposed project (see also Public Resources Code Section 21081).

Type of EIR and EIR Adequacy

This EIR is a Project EIR, pursuant to Section 15151 of the CEQA Guidelines. A Project EIR examines the environmental impacts of a specific project and focuses on the changes in the environment that would result from implementation of the project, including construction and operation.

The level of detail contained throughout this EIR is consistent with Section 15151 of the CEQA Guidelines, which states the following:

> An EIR should be prepared with a sufficient degree of analysis to provide decision makers with information which enables them to make a decision which intelligently

> takes account of the environmental consequences. An evaluation of the environmental effects of a proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in the light of what is reasonably feasible. Disagreement among experts does not make an EIR inadequate, but the EIR should summarize the main points of disagreement among the experts. The courts have looked not for perfection but for adequacy, completeness, and a good faith effort at full disclosure.

2.4 SCOPE OF THE DRAFT EIR

Based on a review of the project and comments received during the NOP public review period, the City determined that an EIR should be prepared that addresses the following technical issue areas:

- Aesthetics
- Agriculture and Forestry Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Geology and Soils
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use
- Noise
- Population and Housing
- Public Services
- Recreation
- Traffic and Circulation
- Utilities and Service Systems .

The evaluation of these subject areas or technical issue areas is presented in a resource-by-resource basis in Chapter 4, Environmental Analysis, in Sections 4.1 through 4.17.

This EIR evaluates the direct impacts, reasonably foreseeable indirect impacts, and cumulative impacts resulting from planning, construction, and operation of the proposed project using the

most current information available and in accordance with the provisions set forth in CEQA and the CEQA Guidelines. In addition, the EIR recommends potentially feasible mitigation measures, where possible, and project alternatives that would reduce or eliminate significant adverse environmental effects.

The alternatives chapter of the EIR (Chapter 5, Project Alternatives) was prepared in accordance with Section 15126.6 of the CEQA Guidelines. CEQA requires that the lead agency adopt mitigation measures or alternatives, where feasible, to substantially lessen or avoid significant environmental impacts that would otherwise occur. Project modification or alternatives are not required, however, where significant environmental impacts will not occur.

2.5 ORGANIZATION OF THE DRAFT EIR

Chapter 1, Executive Summary—Summarizes the elements of the project and the environmental impacts that could result from implementation of the proposed project and provides a table which lists impacts, describes proposed mitigation measures, and indicates the level of significance of impacts before and after mitigation.

Chapter 2, Introduction—Provides an introduction and overview of the EIR process and describes the intended use of the EIR and the review process.

Chapter 3, Project Description—Provides a detailed description of the proposed project, including its location, background information, project history, project objectives, and technical characteristics.

Chapter 4, Environmental Impacts and Mitigation Measures—Describes the baseline environmental setting and provides an assessment of potential project impacts for each technical issue area presented. Each section is divided into four sub-sections: Introduction, Environmental Setting, Regulatory Background, and Impacts and Mitigation Measures (project-specific and cumulative).

Chapter 5, Project Alternatives—Describes and compares the proposed project alternatives to the proposed project.

Chapter 6, CEQA Considerations—Provides information required by CEQA regarding impacts that would result from the proposed project, including a summary of cumulative impacts, secondary impacts including potential impacts resulting from growth inducement, and significant irreversible changes to the environment.

Chapter 7, EIR Preparation—Lists report authors who provided technical assistance in the preparation and review of the EIR.

Chapter 8, Responses to Comments—Lists all comments received during the public review of the Draft EIR, and responses to the environmental issues raised in those comments.

Appendices (included on CD at the back of this Draft EIR) —Includes various documents and data that support the analysis presented in the Draft EIR.

CHAPTER 3
PROJECT DESCRIPTION

Introduction

The proposed Special Use District B (SUD-B) Northeast Quadrant Specific Plan (proposed project or proposed plan) consists of the construction and operation of a 430-unit residential development that includes neighborhood parks, open space, and 69.7 acres of commercial uses along with associated infrastructure on an approximately 198.4-acre site within the City of Lincoln's Sphere of Influence (SOI). The project location, project setting and surrounding land uses, project objectives, and specific project elements are described in detail in this chapter.

3.1 PROJECT LOCATION

The proposed project site or Plan Area is located immediately west of the City of Lincoln, within Placer County (See Figure 3-1, Regional Location).

As shown in Figure 3-2, Site Vicinity, the proposed project site 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.

The assessor parcel numbers (APNs) included in the proposed Specific Plan Area are 021-262-001, 021-262-034, 021-262-035, and 009-031-028. Figure 3-3 shows the individual parcels in the Specific Plan and their associated APN.

3.2 PROJECT SETTING AND SURROUNDING LAND USES

The project site is comprised of four undeveloped parcels. The southern half of the project site has been used primarily for agricultural purposes. The northern half, while historically part of the farming region, has not been cultivated for some time.

The project site is designated on the City of Lincoln General Plan Land Use Diagram as Special Use District-B (APNs 021-262-001 and 021-262-034) and Low Density Residential (APN 021-262-035 and 009-031-028).

The Placer County General Plan land use designation for the project site is Agricultural/Timberland – 80 Ac. Min. and Rural Residential 1-10 Ac. Min.

The current Placer County zoning designations for the project site include F (Farm) –B (Building site) –X (Size) 80 acre minimum, F-B-X-SP (Special Purpose) 80-acre min., F-B-X-SP 5 acre minimum.

3.2.1 Project Setting and Surrounding Land Uses

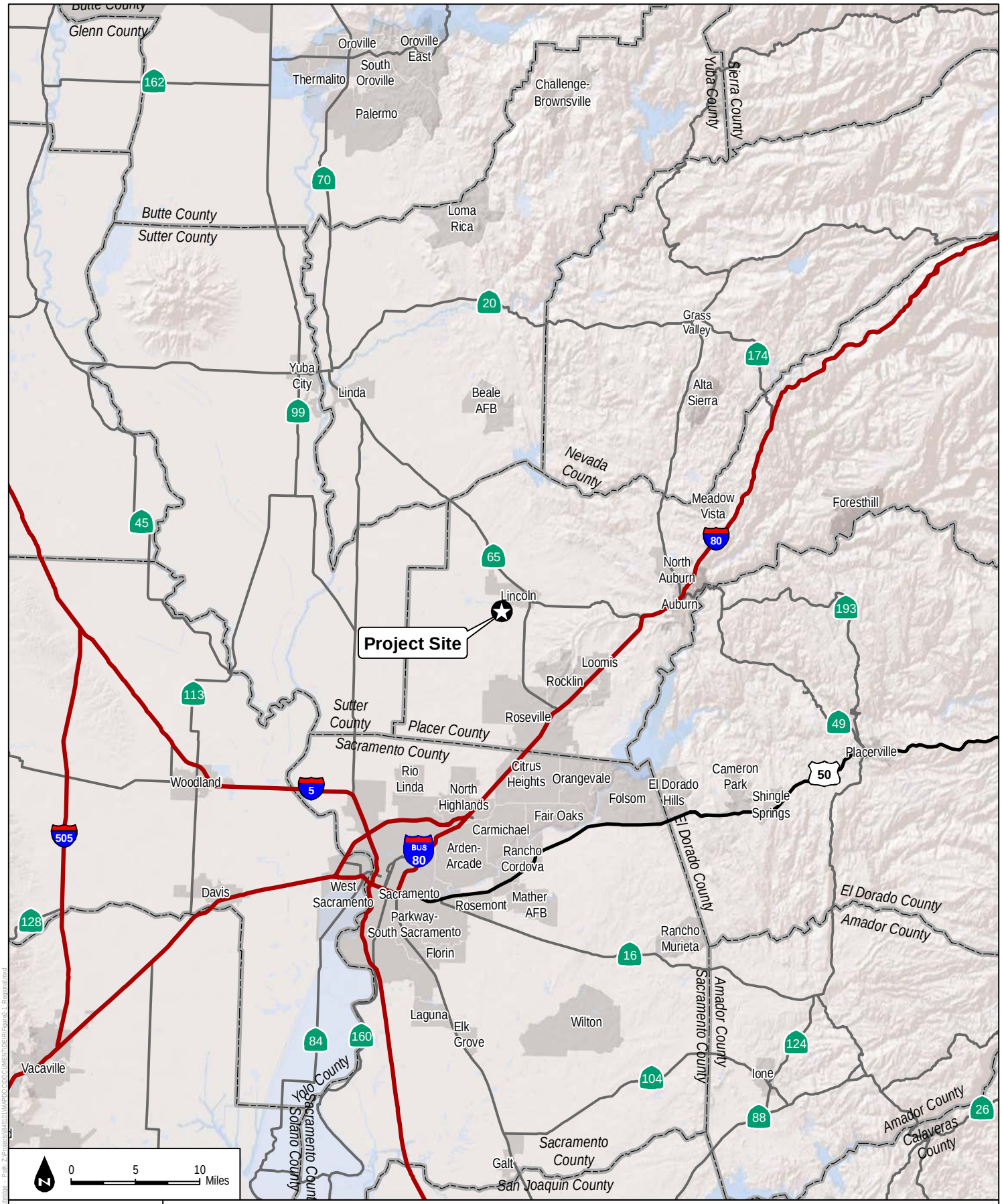
Background

The 198.4-acre project area is part of a larger planning area, Special Use District-B (SUD-B), originally consisting of 1,844 acres (see Figure 3-2). As indicated in the City of Lincoln General Plan, prior to development in SUD areas, a detailed specific plan is required showing the location and type of land uses proposed, the infrastructure required to support the proposed land uses, and a funding and phasing plan for the development. Instead of adopting a single specific plan for the entire 1,844-acre SUD-B planning area, the City determined that the SUD-B Northeast Quadrant portion could proceed with the entitlement process separately from the remainder of the SUD-B planning area. Accordingly, the City has received applications requesting a General Plan Amendment, Specific Plan, General Development Plan, and Tentative Subdivision Map. On December 5, 2017, the City of Lincoln City Council approved a General Plan Amendment, Specific Plan, General Development Plan and Development Agreement of the Village 5 planning area (located west of the project site) that includes the balance of the SUD-B planning area.

As previously mentioned, the Specific Plan includes four parcels (APNs 021-262-001, 021-262-034, 021-264-035, and 009-031-028). Three of the parcels (APNs 021-262-001, 021-262-034, 021-264-035) are located within the City's SOI boundaries and would be applying for annexation approval through the Placer County Local Agency Formation Commission (LAFCO). APN 009-031-028 is already located within the City limits, and would not be included with the other properties in the annexation application.

Project Site

The project site is bordered by three major roadways, Nelson Lane to the west, Nicolaus Road to the north and the Highway 65 Bypass to the south, as shown on Figure 3-2. 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. Markham Ravine bisects the northern portion of the 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. Various wetlands including seasonal drainages and other wetland resources are present throughout the Plan Area.



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SOURCE: Esri Basemaps

FIGURE 3-1

Regional Map

SUD-B Northeast Quadranr Specific Plan DEIR

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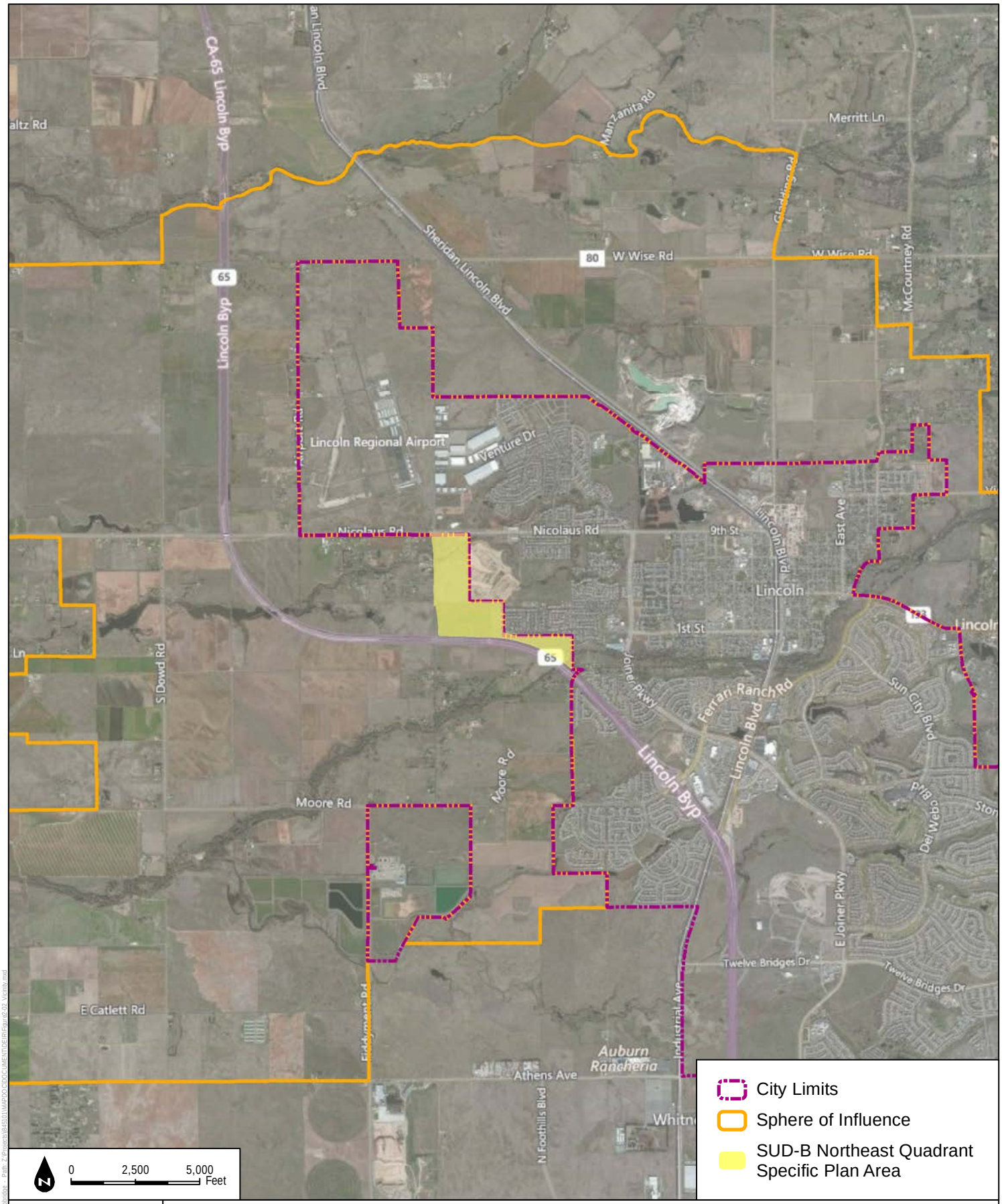

SOURCE: Bing Maps (Accessed 2017); City of Lincoln

FIGURE 3-2
Vicinity Map

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SUD-B Northeast Quadrant Specific Plan DEIR

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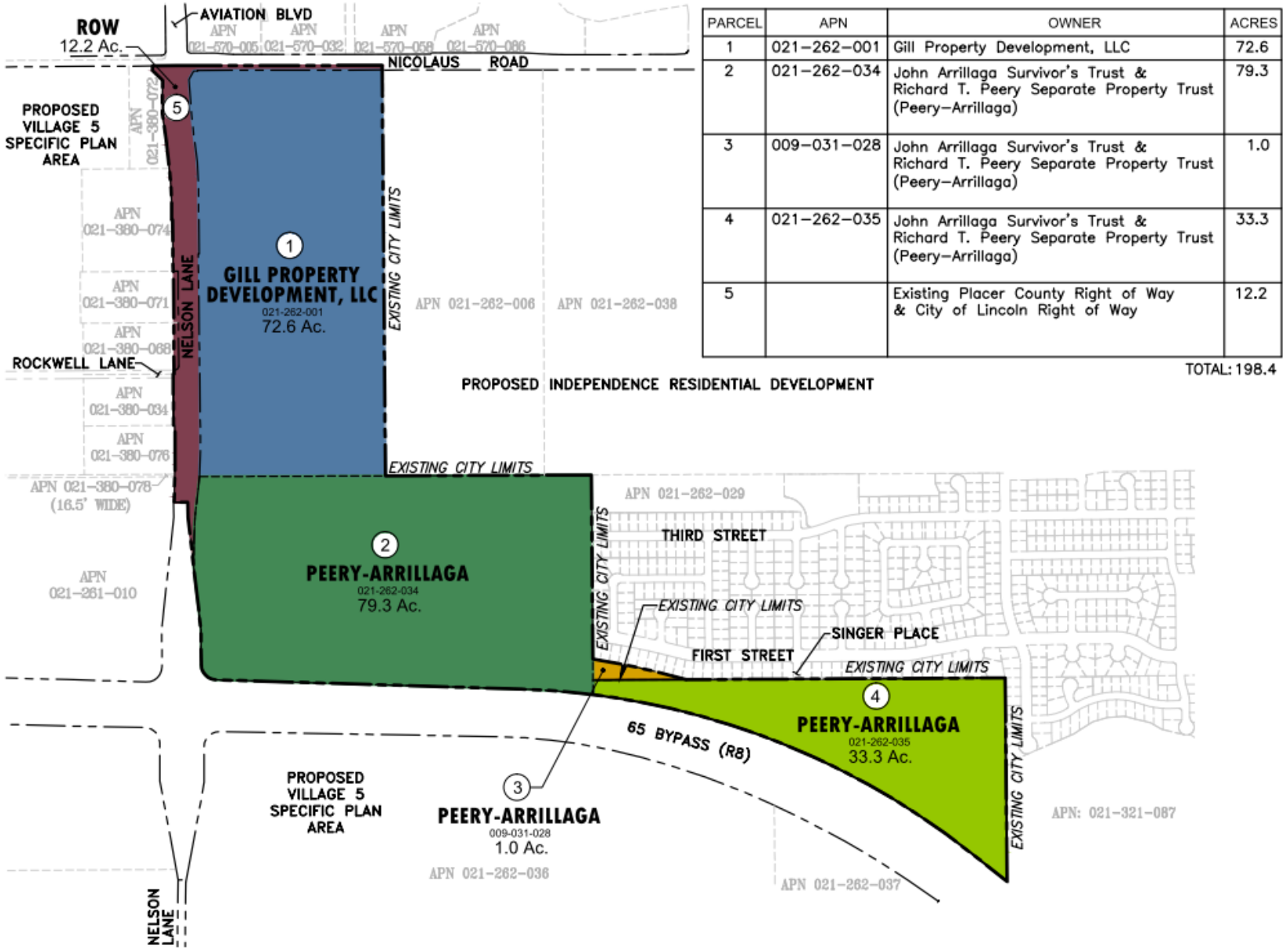

PARCEL	APN	OWNER	ACRES
1	021-262-001	Gill Property Development, LLC	72.6
2	021-262-034	John Arrillaga Survivor's Trust & Richard T. Peery Separate Property Trust (Peery-Arrillaga)	79.3
3	009-031-028	John Arrillaga Survivor's Trust & Richard T. Peery Separate Property Trust (Peery-Arrillaga)	1.0
4	021-262-035	John Arrillaga Survivor's Trust & Richard T. Peery Separate Property Trust (Peery-Arrillaga)	33.3
5		Existing Placer County Right of Way & City of Lincoln Right of Way	12.2
			TOTAL: 198.4

SOURCE: Frayji Design Group, Inc. (2017)

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FIGURE 3-3
Property Ownership

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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, as shown in Figure 3-2. 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 (Mead & Hunt 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 (Mead & Hunt 2014).

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. On April 24, 2017, the City approved an application for development of a residential project, Independence at Lincoln, on the site of the former WWTP. 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.

3.3 PROJECT OBJECTIVES

The objectives and goals of the proposed project are as follows:

- Establish a Specific Plan for the roughly 198-acre area that provides a mix of commercial, residential, and recreational land uses consistent with the City of Lincoln Goals and Policies in a way that enhances the local area.
- Implement the SUD-B Land Use Plan identified in the Lincoln 2030 General Plan.
- Maintain consistency with the Placer County Airport Land Use Compatibility Plan.
- Provide for excellent mobility, efficiency, and sustainability in an economically feasible and attractive smart-growth community.
- Provide infrastructure to support the proposed land use plan.
- Assure orderly growth in a logical manner with adequate public services.

3.4 PROJECT DESCRIPTION

The proposed project consists of a village concept that includes residential, commercial, open space and recreation areas. Each project component is described in more detail below.

3.4.1 Land Use

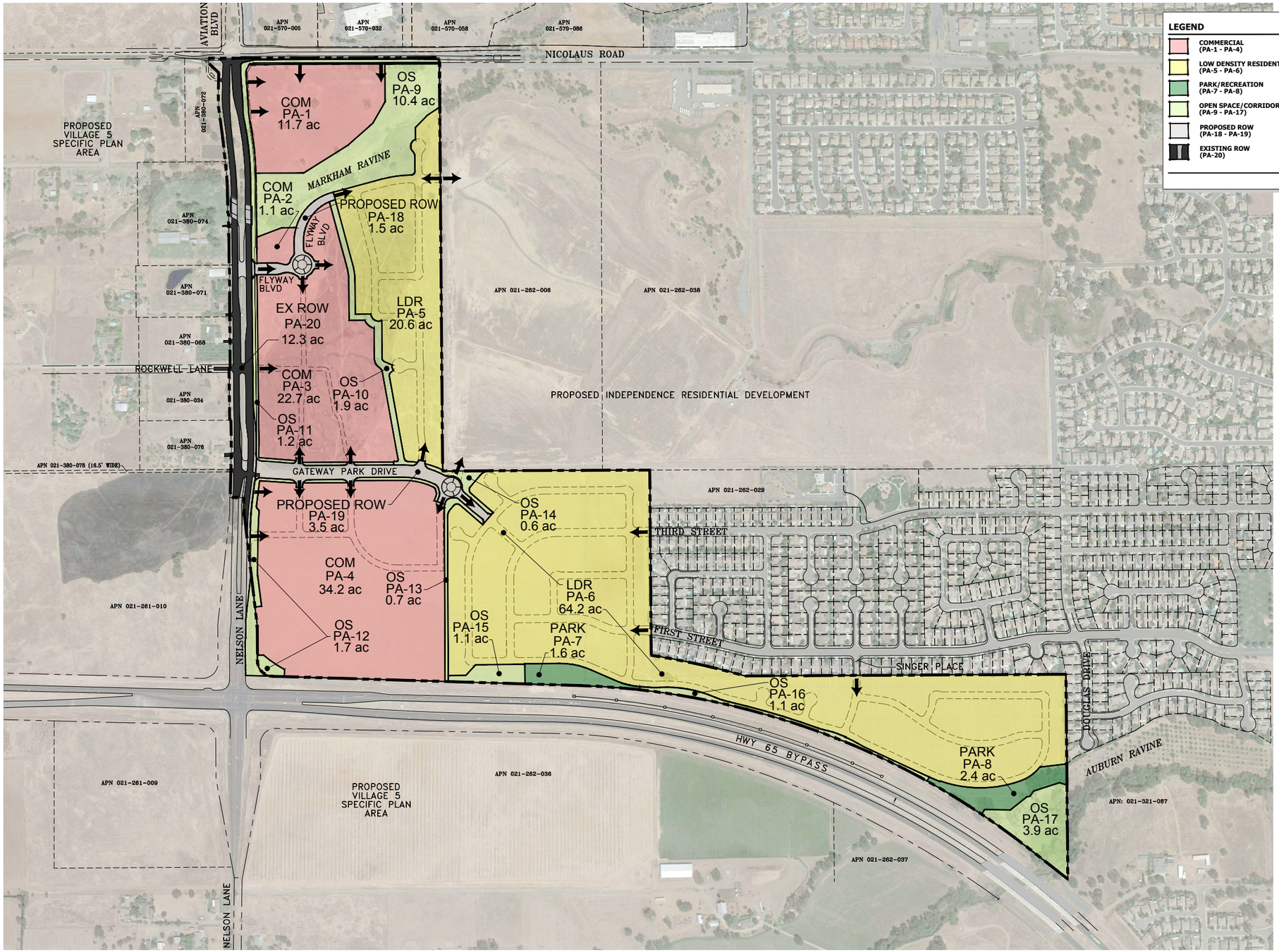
The Specific Plan is designed to allow flexibility by allowing a transfer of residential units between planning areas providing the maximum number of dwelling units does not exceed 430, the resulting density remains within the density designated for the area, and there are no additional environmental impacts beyond those identified in this EIR.

As shown on Figure 3-4, Proposed Land Use Plan, the 198.4 acre Plan Area is comprised of the following land uses:

Low Density Residential (density of 3.0 to 5.9 dwelling units per acre [du/ac]): The residential component would be comprised of up to 430 single family detached homes located along the eastern boundary of the Plan Area within the C-2 zone of the airport's land use compatibility plan. Residential uses would be set back from Markham Ravine outside of the floodplain. Approximately 84.8 acres of the Plan Area would be residential.

Commercial: The commercial component would be located along the western boundary of the Plan Area along Nelson Lane and Nicolaus Road. Approximately 12.8 acres would be located in the northwest corner of the Plan Area, on the north side of Markham Ravine. The remaining 56.9 acres would be located south of Markham Ravine along the western boundary of the Plan Area. The commercial uses and would be designed to comply with the City of Lincoln guidelines and airport land use restrictions included in the C-1 zone. Commercial land uses in the Plan Area would account for approximately 69.7 acres total with a maximum of 971,000 square feet (sf).

Multi-Family Option: The Specific Plan includes an option to convert 5 acres of commercial land north of Markham Ravine to be developed as multifamily residential. This would create 166 units of multi-family residential development in lieu of approximately 76,200 sf of commercial development.



SOURCE: Frayji Design Group, Inc. (2017)

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FIGURE 3-4
Land Use Plan

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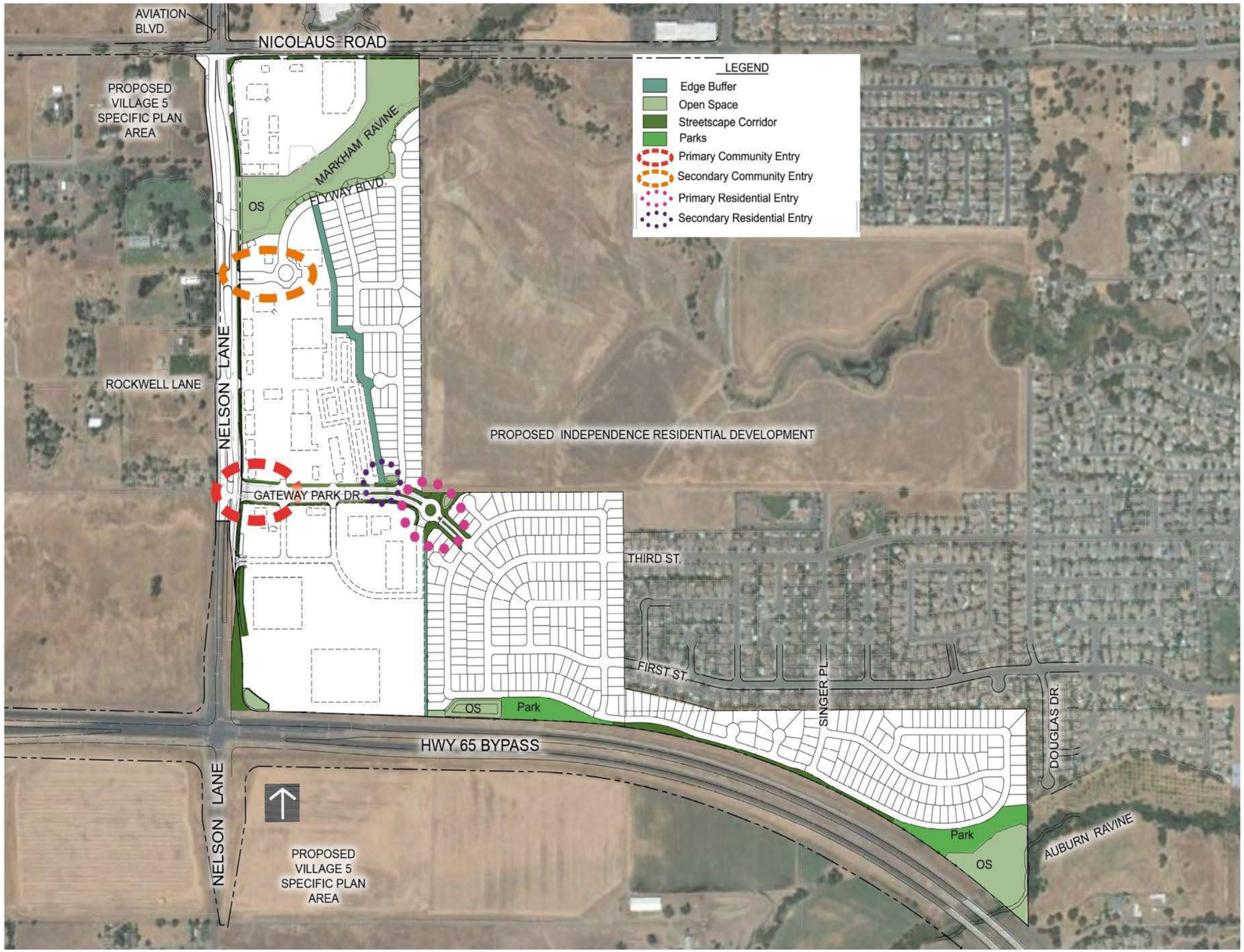

SOURCE: Frayji Design Group, Inc. (2017)

FIGURE 3-5
Site Plan

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Open Space/Park and Recreation: Proposed open space and park / active recreation areas within the Plan Area would include portions of the Markham Ravine and Auburn Ravine channels, buffer spaces, landscape corridors along major roads, and two neighborhood parks. Approximately 22.6 acres of land within the Plan would be developed as open space and 4.0 would be dedicated for park / active recreation uses. The City's Parks and Recreation Division would oversee operation and maintenance of the parks after the improvements have been constructed.

Specific Plan Roads: Proposed collector roads associated with this project would use 5.0 acres of land in total and existing roads account for 12.3 acres of land.

Table 3-1
Land Use Summary

Land Use	Acreage	Density Range (units per acre)	Proposed Project		Multi-Family Option	
			Maximum Dwelling Units	*Maximum Commercial (sf)*	*Maximum Dwelling Units*	*Maximum Commercial (sf)*
Residential						
Low Density Residential (LDR)	84.8	3.0-5.9	430		430	
Multi-Family Residential (MFR)		33	0		166	
Commercial						
Commercial (COMM)	69.7			971,000		894,800
Parks, Recreation and Open Space						
Parks and Recreation (PR)	4.0					
Landscape Corridors (OS)	7.2					
Natural Areas (OS)	15.4					
Major Roadways	17.3					
Total	**198.4**		**430**	**971,000**	**596**	**894,800**

Source: SUD-B Northeast Quadrant Specific Plan

3.4.2 Access and Circulation

The project site is accessible from the existing area transportation network and is proposed to be compatible with future expansion plans on area roadways (see Figure 3-4). The existing primary access to the Plan Area is from Nelson Lane, located along the western edge of the project site. Nelson Lane has recently been improved to four lanes and provides upgraded access to the area. Nelson Road connects to the newly constructed Highway 65 Bypass on the southwestern corner of the Plan Area, providing direct regional access for the area.

The Plan Area is also accessible from Nicolaus Road to the north. Nicolaus Road provides connectivity east to downtown Lincoln, both directly and through the Nelson Lane interconnection. Further access to the project site is available through residential connections

from First Street, Third Street, and Singer Place, within the existing residential neighborhood located adjacent to the southwest boundary of the project site.

The project includes a hierarchy of streets designed to accommodate pedestrians, bicyclists, neighborhood electric vehicles (NEVs) and vehicles. Table 3-2 provides a breakdown of proposed roadway widths. The primary commercial and residential streets include a minimum 20-foot-wide landscape corridor on both sides of the streets with 5-foot-wide separated sidewalks. Bike lanes would be provided on primary residential streets and optional on primary commercial streets. Minor residential streets are designed to be pedestrian friendly and include traffic calming elements such as narrower streets, reduced turning radii and on-street parking.

Table 3-2
Roadway Details

Roadway Type	Roadway			Landscape Corridor /Easement	Sidewalk
	Lanes	*ROW Width*	*Landscape Median*		
Collector Streets					
Commercial Collector	2-4	55-80’	2’-14’	20’ minimum	6’
Local Streets					
Primary Residential Street	2	50’	NA	NA	4’
Primary Commercial Street	2	55’	2’-13’	20’ minimum	4’
Minor Residential Street	2	40’-44’	NA	NA	4’

Source: SUD-B NEQ SP

Class I bike lanes are proposed within the open space corridor PA-10 and along Markham Ravine and Auburn Ravine. These are designed to eventually connect to the City’s planned bike/trail system. Class II bike lanes will be provided on all collector and primary residential streets.

NEVs would be permitted on all roadways within the Plan Area with speeds limits of 35 miles per hour or less. Class II NEV routes would be provided along northbound Nelson Lane and eastbound Nicolaus Road, Gateway Park Drive, and Flyway Boulevard, adjacent to the Plan Area. Each developer will be responsible for developing the road frontage adjacent to their property (including the Plan Area).

No transit service is currently provided within the Plan Area. The City of Lincoln is considering adding a bus turnout and shelter near the Plan Area on either Nelson Lane and/or Gateway Park Drive. Public transportation services are offered by Placer County Transit, which offers access to locations within the City of Lincoln and the greater Placer County Area. The City also provides Lincoln Transit Dial-A-Ride, a community paratransit service which allows for transportation within the City of Lincoln. These buses utilize equipment that is compliant with the Americans with Disability Act and include wheelchair lifts and securement areas.

3.4.3 Public Services and Utilities

Existing public services and utilities would serve the project site. Each service provider is described below.

Schools and Libraries: The project site is located in the Western Placer Unified School District (WPUSD). Existing and nearby schools that would serve the project include Creekside Oaks Elementary School, Glen Edwards Middle School, and Lincoln High School. New school facilities are not expected to be built in the Plan Area. The Lincoln Public Library is the current overseer of the library that will provide library services to the SUD-B Plan Area.

Parks and Recreation: The Plan Area would be served by the City of Lincoln Parks Department. As shown on Figure 3-4, the proposed project includes two neighborhood parks that total 4.0 acres and 22.6 acres in landscape corridors and open space to provide for active and passive recreational opportunities within the community. The neighborhood parks could include, but would not be limited to providing sports fields, children's play areas, picnic and BBQ facilities, shade structures, restrooms and parking. The plan further sets aside open space along Auburn and Markham Ravines. Portions of the Open Space areas would be designed to preserve existing wetlands adjacent to the ravines. Connections to existing trails would also be provided.

Fire Protection and Law Enforcement: The Plan Area would be served by the City of Lincoln Fire Department and Police Department. The Lincoln Police Department will provide services to prevent crime, educate citizens, investigate crime, and respond to emergencies. The Fire Department serves the City's needs for fire response, medical emergencies, public assists, and other hazards. Impact fees for police and fire capital improvements are expected to be paid by the project developers.

Water Supply: Water to serve the Plan Area would be provided by the City of Lincoln. The City's water supply originates from the Placer County Water Agency (PCWA), Nevada Irrigation District (NID), and municipal wells. The City Reservoir 1 storage tank, located to the east of the site, will be the main water source for the Plan Area. Connections to the City's existing domestic water network on Nicolaus Road, north of the Plan Area, and at the Nicolaus Road and Nelson Lane intersection, will be built A new transmission line would be constructed in Nelson Lane that the project would tie into, and each development zone within the Specific Plan Area will be fitted with backbone water lines. Additional connections are anticipated to be available upon development of the former WWTP parcel and with the addition of future water lines in Nelson Lane. Reclaimed water and raw water from the future Nelson Lane distribution line may also provide potential sources to offset potable water for landscaping.

Wastewater: The City of Lincoln would provide wastewater service to the Plan Area. Existing sewer trunk lines are located southeast of the Plan Area along Nicolaus Road. A 36-inch sewer

interceptor is located south of Douglas Drive, east of the site. The City of Lincoln General Plan has reserved capacity at its Wastewater Treatment & Reclamation Facilities (WWTRF) for the Plan Area, and also calls for the construction of a 54-inch trunk line along Nelson Road, which could be used once connected to the WWTRF.

Storm Drainage: The project site is within the drainage sheds of Auburn Ravine and Markham Ravine, with segments of each passing through the site. The Specific Plan expects to maintain the existing drainage sheds after development and rely upon regional storm drain improvements constructed by the City of Lincoln. These improvements would include establishment of pipe conveyance systems, drainage basins, and outfalls. The proposed drainage system is a gravity system which will collect stormwater from the Project Area and discharge it into open space drainage corridors. Along the ravines drainage improvements would be installed to receive, retain, and convey treated stormwater, as necessary. The project also proposes low impact development (LID) features such as grassy swales, porous pavement, reduced hardscape areas, retention of natural vegetation, and stormwater detention basins. Water quality will be addressed through Best Management Practices (BMPs) and the use of LID.

Dry Utilities: Electrical service and natural gas will be provided by Pacific Gas & Electric (PG&E). PG&E will extend its service to the Plan Area by placing new electric lines below ground and establishing distribution facilities as required. AT&T or Surewest Cable will provide phone and cable services. A variety of other providers are available for high-speed internet. Solid and green waste collection services are provided by the City of Lincoln's Public Services Department.

3.4.4 Landscaping and Design Elements

The project includes approximately 7.2 acres of landscaped corridors, which includes landscaped center roadway medians and landscaped corridors adjacent to collector roadways that will be 20-feet-wide at minimum. Sidewalks and multi-use trails would be provided in these areas. A 20-foot-wide landscape corridor/buffer would also be located along the commercial and residential boundary to serve as buffer between residences and commercial uses.

Landscaping would include a mix of drought tolerant and native species, which will be selected from three recommended plant palettes listed in the SUD-B NEQ General Development Plan. These plant palettes suggest appropriate species of trees, shrubs, groundcovers, and grasses, to serve the purpose of producing a landscape conducive to the project theme, climate, soil, water needs, and maintenance of the site. Landscaping must comply with Section 15.28 of the Lincoln Municipal Code.

Project design elements will be implemented with regard to sustainable practices. This can involve compact development that encourages pedestrian, cyclist, and NEV access, water runoff reduction strategies such as fewer impervious surfaces and greater water detention, retention of natural habitat areas, and water-conscious landscaping and irrigation.

Project Design Elements

Lighting: Lighting along streets, walkways, buildings, and landscaping should be aesthetically conscious as well as effective. Energy-efficient lighting and shielded light fixtures are encouraged when feasible. Street lights will be located regularly along roadways and where pedestrians might encounter vehicular traffic, and lighting will be used to maximize public safety. Glare from lighting will be minimized by using lighting design to reduce light reflection.

Walls and Fencing: Walls and fencing will be used with the objective of providing privacy and boundaries for property lines, reduce noise and foster safety without diminishing the scenic character and visual element of the area. Developers involved in future development projects must get approval from the City for their wall and fence design. Within the Plan Area, view fences and split rails shall be used to preserve views neighboring open space and park areas. Split rail fences should be 4’ in height at maximum and community screen walls or combination walls/berm should be 6’ in height at minimum. View fences are expected to be 6’ in height. All walls and fences should be durably built with consistency with the surrounding environment in style, material, color, height, and texture.

Commercial Building Heights: The maximum structure height for buildings in commercial areas is 56 feet.

Signage: Signage within the Project Area should be consistent, and appropriately scaled, sized, designed and placed for the area in which it is located. Signs should be of a durable material, and have a clear, legible design that is easily understandable. Building signs should be integrated with building design. All signs must be in compliance with Title 16 of the Lincoln Municipal Code, which requires that building signs not be placed to project above the roofline, and that freestanding signs be a minimum of three feet from the property line.

Energy Features

The proposed project includes energy conservation features that meet the state’s current Title 24 requirements and CALGreenCode measures. Design features could include homes pre-wired for solar and electric vehicle chargers, low-emitting products for furnaces and air conditioners, restrictions on wood-burning fireplaces, and strategic tree placement and building orientation and design to maximize natural lighting, heating, and cooling opportunities. The Specific Plan encourages strategies such as use of energy efficient lighting and heating/cooling systems, light colors for roofing and wall finishes, and use of EnergyStar program guidelines. Landscaping will also be used to increase natural cooling and energy efficiency.

3.4.5 Development Standards

Development projects within the City of Lincoln are required to comply with a variety of existing adopted plans, federal and state guidelines and laws, and local ordinances prepared specifically to address activities associated with project construction and operation. The City's Design Criteria and Procedures Manual (City of Lincoln 2004) was prepared to provide guidance and to "regulate, and guide preparation of traffic impact studies and the design and preparation of plans for construction of streets, highways, alleys, drainage, sewerage, traffic signals, site access, water supply facilities and related public improvements, and shall set guidelines for all private works which involve drainage, grading, trees, and related improvements." The project applicant is required to comply with the City's standards outlined in this manual.

3.5 PROJECT CONSTRUCTION AND TIMELINE

Project construction would occur over a 2 to 10 year period with multiple phases. Phasing would be expected to begin in the southeast and proceed westward and northward. Phases may occur either sequentially or concurrently, depending on market conditions. Additionally, phases may proceed earlier in sequence if conditions warrant. Tentative maps would be submitted for all commercial and residential development. Annexation would be completed with the intent of having all of the parcels requiring annexation (APN 021-262-001, 021-262-034 and 021-262-035) being processed together in a single application.

The Specific Plan includes a number of measures designed to preserve sensitive areas both during and after project construction including the following:

- High visibility fencing adjacent to sensitive open space areas that include signs indicating access is restricted due to sensitive wetlands.
- Permanent open fencing along the perimeter of sensitive open space areas to limit vehicle access to maintenance staff and emergency vehicles.
- Preparation of an Operations and Management Plan, per Section 404 permit requirements.

The Specific Plan indicates prior to the issuance of grading permits a Construction Emission/Dust Control Plan will be prepared and submitted to the Placer County Air Pollution Control District for approval.

3.6 PROJECT APPROVALS

The EIR will analyze construction and operation of the proposed project on a project-specific level (CEQA Guidelines Section 15161). The project-level analysis in the EIR will also provide the basis for CEQA compliance for subsequent approvals for the project.

The proposed project would involve the following approvals by the City of Lincoln and LAFCO:

- General Plan Amendment;
- Adoption of the SUD-B Northeast Quadrant Specific Plan and General Development Plan;
- Prezoning of the project site;
- Approval of a Water Supply Assessment;
- Adoption of a Development Agreement between the City of Lincoln and SUD-B Northeast Quadrant landowners;
- Adoption of a Public Facilities Financing Plan;
- Approval of large lot and small lot tentative subdivision maps; and
- Approval of annexation of the SUD-B Northeast Quadrant with approval by LAFCO.

As a portion of the project is within the Airport Influence Area, the Airport Land Use Commission will review the proposed General Plan Amendment and rezoning for consistency with the Placer County Airport Land Use Compatibility Plan.

The EIR would also be used by Responsible Agencies and Trustee Agencies that may have some approval authority over the proposed project (e.g., issue a permit). The project applicant would obtain all permits, as required by law. A list of responsible and/or permitting agencies is included below. However, this list is not exhaustive and could include other agencies. This EIR has been designed to provide information to these agencies to assist them in the permitting processes for the proposed project. While CEQA is not binding on federal agencies, any federal agency may use the analysis in this document in order to assist with the preparation of their own analyses required by federal law.

- United States Army Corps of Engineers
- United States Fish and Wildlife Service
- California Department of Fish and Wildlife
- State Water Resources Control Board
- Central Valley Regional Water Quality Control Board
- Placer County
- Placer County Flood Control and Water Conservation District
- Placer County Air Pollution Control District

The federal Clean Water Act oversees the Section 401 and 404 processes for the removal and mitigation of wetlands and wetland resources. A permit to fill or remove wetlands is required from the Army Corps of Engineers and the Regional Water Quality Control Board (RWQCB).

The State Water Resources Control Board (SWRCB) and the RWQCB are responsible for ensuring implementation and compliance with the provisions of the federal and state Clean Water Act and the National Pollutant Discharge Elimination System (NPDES) permit. This includes compliance with the Placer County Flood Control and Water Conservation District's Stormwater Management Manual, and the City of Lincoln Stormwater Management Plan, as well as ordinances in the City's Municipal Code. In addition, stormwater quality BMPs would be required during construction in accordance with state regulations. Post-construction Best Management Practices (BMPs) would need to be incorporated into the project design in accordance with the City's Post-Construction Stormwater Runoff Control Ordinance.

Air quality is regulated by guidelines and rules established by the Placer County Air Pollution Control District for construction and operation of projects.

CHAPTER 4
ENVIRONMENTAL ANALYSIS

Introduction to the Analysis

Scope of the EIR Analysis

This chapter of the Draft Environmental Impact Report (Draft EIR) discusses the environmental and regulatory setting, impacts, and mitigation measures for each of the following technical issue areas (Sections 4.1 through 4.16):

- 4.1 Aesthetics
- 4.2 Agriculture and Forestry Resources
- 4.3 Air Quality
- 4.4 Biological Resources
- 4.5 Cultural Resources
- 4.6 Geology and Soils
- 4.7 Greenhouse Gas Emissions
- 4.8 Hazards and Hazardous Materials
- 4.9 Hydrology and Water Quality
- 4.10 Land Use and Planning
- 4.11 Noise
- 4.12 Population and Housing
- 4.13 Public Services
- 4.14 Recreation
- 4.15 Traffic and Circulation
- 4.16 Utilities and Service Systems

Environmental Setting

According to subdivision (a) of Section 15125 of the California Environmental Quality Act (CEQA) Guidelines, an EIR must include a description of the existing physical environmental condition in the vicinity of the project as they exist at the time when the Notice of Preparation (NOP) is published. This "environmental setting" will normally constitute the "baseline condition" against which project-related impacts are compared. Therefore, the baseline

conditions for this Draft EIR, unless noted otherwise, are based on conditions that existed in April 2015, when the NOP was published. The CEQA Guidelines recognize that the data for establishing an environmental baseline cannot be rigid. Because physical environmental conditions may vary over a range of time, the use of environmental baselines that differ from the date of the NOP is reasonable and appropriate in certain circumstances when doing so results in a more accurate or conservative environmental analysis.

For analytical purposes, impacts associated with implementation of the proposed Special Use District B (SUD-B) Northeast Quadrant Specific Plan Project (proposed project) are compared against two different baselines: first, project-specific effects are assessed against existing conditions at the time the NOP was first published; and second, cumulative effects are assessed against future, or "cumulative," conditions, generally defined as buildout of the City of Lincoln 2050 General Plan. Existing conditions and the cumulative baseline can differ by issue area. Each technical section in Chapter 4 defines the existing conditions and cumulative baseline for the impacts being analyzed.

In determining the level of significance of environmental impacts associated with the proposed project, the analysis in this Draft EIR assumes that the proposed project would comply with relevant federal and state laws and regulations, and City of Lincoln General Plan policies, ordinances, and other adopted City documents, unless otherwise noted. Therefore, such mandatory policies, ordinances, and standards are not identified as mitigation measures, but rather are discussed as part of the "Regulatory Setting" governing the proposed project.

Project Description

The proposed project includes, among other things, development of 430 residential units, neighborhood parks, open space, and 971,000 square feet (sf) of commercial uses on the approximately 198-acre project site.

Environmental Section Format

Each technical section in Chapter 4 begins with an **introduction** that explains the issues to be evaluated, provides a general summary of comments received in response to the NOP, and identifies the primary sources reviewed to prepare the analysis. The introduction is followed by a description of the project's **environmental setting** and **regulatory setting** as it pertains to a particular issue.

The regulatory setting provides a summary of applicable federal, state, and local regulations, plans, policies, and laws that are relevant to each issue area. The regulatory setting description in each section is followed by a discussion of **project-specific impacts**. The project-specific impacts discussion is followed by an analysis of the **cumulative impacts** of the project. This section addresses what the project's incremental contribution to any cumulatively significant impacts

would be and identifies mitigation measures, if required. The impact statement is prefaced by a number for ease of identification. An explanation of each impact and an analysis of its significance follow each impact statement. All **mitigation measures** are identified immediately following the impact analysis. The degree to which the identified mitigation measure(s) would reduce the impact is also described. Compliance with applicable laws, policies, and City regulations is assumed and will be identified in the impact analysis. In many cases, compliance with applicable laws, policies, or regulations would reduce the significance of an impact.

An example of an impact statement is shown below.

Impact 4.2-1. Implementation of the proposed project could expose sensitive receptors to substantial pollution concentrations.

A discussion of potential impacts of the proposed project is presented in paragraph form. The project-specific impacts associated with construction and operation of the project are evaluated and compared to the threshold of significance for the particular impact. The analysis discusses the applicable local, state, and federal laws and regulations that would reduce impacts, and assumes that the project would comply with applicable laws, ordinances, and regulations, and that the project applicant would obtain all necessary permits and comply with all required conditions of those permits. In many instances, the actions that are necessary to reduce a project impact are already required by existing laws or requirements. The impact analysis concludes with a determination of the impact's significance in **bold type** (e.g., **significant impact, significant and unavoidable impact, potentially significant impact, less-than-significant impact, or no impact)**.

Mitigation Measures

A discussion of the applicable mitigation measures identified to reduce the significance of an impact will immediately follow the impact analysis.

This section includes a statement indicating whether the mitigation measure will reduce the impact to a **less-than-significant level** or if the impact remains **significant and unavoidable** due to the absence of any available mitigation that could reduce the impact below the applicable threshold. A discussion of how the mitigation would reduce the impact is included before the mitigation measure.

Mitigation measures, if applicable, are numbered and presented in the following format.

MM-AQ-1 Statement of what, if any, mitigation measures are required.

Note that CEQA Guidelines, Section 15370, defines mitigation as:

- Avoiding the impact altogether by not taking a certain action or parts of an action;
- Minimizing impacts by limiting the degree of magnitude of the action and its implementation;
- Rectifying the impact by repairing, rehabilitating, or restoring the affected environment;
- Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; and
- Compensating for the impact by replacing or providing substitute resources or environments.

In addition, provided there is a "reasonable plan for mitigation" and contributions are "sufficiently tied to the actual mitigation" of the project's impacts, a commitment to contribute a fair share to such a program discharges an agency's mitigation duty under CEQA (*Save Our Peninsula Com. v. Monterey County Bd. of Supervisors* 2001) 87 Cal.App.4th 99, 141); see also CEQA Guidelines, Section 15130(a)(3) ([recognizing that a project's contribution to a cumulative impact may be less than cumulatively considerable where "the project is required to implement or fund its fair share of a mitigation measure or measures designed to alleviate the cumulative impact"] see also *Anderson First Coalition v. City of Anderson*(2005) 130 Cal.App.4th 1173).

Cumulative Impacts

CEQA requires that an EIR contain an assessment of the cumulative impacts that could be associated with the proposed project. This assessment involves examining project-related effects on the environment in the context of similar effects that have been caused by past or existing projects, and the anticipated effects of future projects. As indicated in the CEQA Guidelines, the discussion of cumulative impacts need not provide the same level of detail as project-related impacts. The discussion should be guided by "standards of practicality and reasonableness" (CEQA Guidelines, Section 15130(b)). Although project-related impacts can be individually minor, the cumulative effects of these impacts, in combination with the impacts of other projects, could be significant under CEQA and must be addressed (14 CCR 15130(a)). Where a lead agency concludes that the cumulative effects of a project, taken together with the impacts of other closely related past, present, and reasonably foreseeable probable future projects are significant, the lead agency then must determine whether the project's incremental contribution to such significant cumulative impact is "cumulatively considerable" (and thus significant in and of itself).

An analysis of cumulative impacts follows the evaluation of project impacts under existing conditions in each technical section in Chapter 4. As defined in CEQA Guidelines, Section 15355, cumulative impacts refer to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts. The cumulative impact from several projects is the change in the environment which results from the

incremental impact of the project together with other past, present, and reasonably foreseeable projects causing related impacts. An introductory statement that defines the cumulative analysis methodology and the cumulative context being analyzed for respective sections (e.g., buildout of the City's General Plan, development within the Sacramento Valley Air Basin) is included under the "Cumulative Analysis" discussion. In some instances, a project-specific impact may be considered less than significant, but would be considered potentially significant in combination with other development within the surrounding area. Or, in some instances, a potentially significant impact could result on a project level, but would not result in a cumulatively considerable impact. The cumulative impacts analysis is presented in the same format as the impacts section, shown above.

Cumulative Context

To ensure an adequate discussion of cumulative impacts is included in an EIR, CEQA allows the lead agency to use either a list of past, present, and probable future projects (including those projects outside of the control of the lead agency), or projections included in an adopted local, regional, or statewide plan like a general plan (CEQA Guidelines, Section 15130(b)(1)). The general cumulative impact context for evaluating cumulative impacts for the majority of the technical issue areas evaluated in Chapter 4 of this Draft EIR considers development projections identified in the City's 2050 General Plan, or evaluates the potential loss of resources on a much broader, regional scale. This cumulative impact analyses in this Draft EIR thus do not rely on any list of specific pending, reasonably foreseeable development proposals in the general vicinity of the proposed project.

It is important to note that the basis of the cumulative analysis varies by technical area. For example, traffic and traffic-related air emissions and noise analyses assume development that is planned and/or anticipated in the City, as well as the surrounding unincorporated area, because each contributes to traffic on local and regional roadways that is quantifiable. Operational air quality impacts are evaluated against conditions in the City and surrounding areas within the Sacramento Federal Nonattainment Area for ozone (which includes western Placer County). The cumulative analysis in each of the technical sections evaluates the proposed project's contribution to the cumulative scenario. A description of the cumulative context for each issue area evaluated is included in the cumulative impacts at the end of each technical section of Chapter 4.

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4.1 AESTHETICS/VISUAL RESOURCES

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

Comments received at the Public Scoping Meeting included concerns regarding the loss of views from existing residences (see NOP Comments, Appendix B).

Information contained in this section is based on the Draft Specific Plan, a field survey, and City planning documents (including the General Plan). Other sources consulted are listed in Section 4.1.8, References.

4.1.1 Existing Conditions

This section describes the existing conditions in the project area and identifies the resources that could be affected by the proposed project.

4.1.1.1 Regional Setting

The City of Lincoln is situated on the eastern edge of the Sacramento Valley floor at the base of the Sierra Nevada foothills. The terrain ranges from flat to gently rolling foothills, with several waterways traversing the area. Views along SR 65 include Telegraph Hill to the east, and background views of the Sierra Nevada (City of Lincoln 2008).

The core area of the City of Lincoln contains a mixture of commercial, civic, and residential land uses. Although new development with modern architectural features is occurring within several growth areas around the City's downtown area, the City has several neighborhoods maintaining many of their original architectural features. The Gladding McBean Plant, a terra cotta clay manufacturing plant is located north of the downtown core area, east of Lincoln Boulevard. A lumber processing plant and several clay pits are also located north of the core area. The Lincoln Regional Airport is located to the northwest of the core area. As of 2008, the Lincoln Wastewater Treatment Plant was located southwest of the downtown and contained large berms up to fifteen feet in height, which dominated views to the east of Lincoln and the riparian corridor along Markham Ravine (City of Lincoln 2008). In 2016, these berms were removed and the former Wastewater Treatment Plant site is now vacant and slated for development of the Independence at Lincoln residential development project.

The City's Planning Area is crossed by two main highways SR 65 and SR 193. SR 65 connects Lincoln to I-80 south of the City. SR 65 diverges south of the project area, with Old Highway

65/Lincoln Blvd. continuing north, and the SR 65 Bypass curving west, and then turning to the north past Lincoln Regional Airport (rejoining Old Highway 65 near Wheatland). SR 193 connects to Old Highway 65 in an east-west direction in the core area of the City. SR 193 is a two-lane undivided highway. The Union Pacific Railroad operates a mainline through Lincoln, which runs along the western side of SR 65 (City of Lincoln 2008).

Agricultural and rural residential land uses dominate the landscape in undeveloped portions of the Planning Area. Vernal pools are present in several locations throughout the non-native grasslands and agricultural land. Typical views within most of the undeveloped portion of the Planning Area are characterized by a variety of woodland and grassland habitats, with many areas covered with seasonal wild flowers (City of Lincoln 2008).

The Markham Ravine and Auburn Ravine are located within or adjacent to the City's Planning Area. Auburn Ravine, a perennial waterway, is located to the south of the City limits and flows from east to west. This important waterway provides drainage for the City and is also an area of critical concern for the protection of existing scenic values, natural vegetation, and wildlife species. Riparian habitats have established feeding and nesting areas along the Auburn Ravine that enhance a scenic corridor for passive recreational opportunities. Orchard Creek flows into Auburn Ravine just west of the existing City limits. Markham Ravine, a seasonal streambed, crosses through the central portion of the City. Markham Ravine is surrounded by a variety of natural vegetation including an oak savannah habitat. Emergent aquatic plants such as sedges, rushes, and cattails are also present. (City of Lincoln 2008).

4.1.1.2 Project Site

The project site is characterized by relatively flat grasslands with scattered trees. No permanent structures are located on the project site. The southern portion of the project site (the Peery property) has historically been farmed, and is relatively flat. The northerly and southeasterly portions of the project site maintain more of their natural topography. The elevation ranges from 120 feet above sea level in the north and west areas of the site, to 130 feet above sea level in the south. Within the project site are two waterways, Auburn and Markham Ravines, with denser riparian vegetation, including mature trees such as valley oak and walnut. These corridors are narrow, and the understory consists mainly of grasslands similar to the surrounding areas. The southeast corner of the site, south of Auburn Ravine, includes a small patch of oak woodland (approximately 100 trees).

A soundwall within the SR 65 right of way on the southern boundary of the project creates a visual barrier between Auburn Ravine and the approximate center of the Peery property (the southerly half of the project site).

Views from the project site include scattered industrial and office development to the north, the former wastewater treatment plant site and the Joiner Ranch West subdivision to the east, SR 65 and open space to the south (including a portion of soundwall), and rural residential development to the west.

Most of the project site would be considered of moderate quality, as it is typical of the surrounding grasslands and agricultural areas, and lacks dramatic landscape features. Most of the project site has also been modified through extensive agricultural use. The riparian corridors associated with the two waterways offer some variety to the landscape, although as noted above these are fairly narrow, and blend quickly into the surrounding non-native grasslands.

4.1.1.3 Viewpoints

The project site is visible from the SR 65 Bypass, although a portion of southern boundary of the project site includes a soundwall that blocks views from the highway. The site is visible from the adjacent public streets, Nelson Lane and Nicolaus Road, and from nearby residential development. Existing residents include rural residential development to the west of Nelson Lane and the "Park Estates" neighborhood located east of the project site.

The selected viewpoints of the site are shown in **Figure 4.1-1**. Notable views of the project site include background views of the Sierra foothills from the west edge of the project site (Viewpoints 1 and 2), and intermediate range views of Auburn Ravine from the existing Joiner Ranch West neighborhood (Viewpoint 8).

Residential viewers are considered to have high sensitivity – both their expectations of visual quality and their time of exposure is greater than the employees or highway travelers that comprise the other viewer groups.

4.1.1.4 Scenic Resources

Auburn and Markham Ravines are identified as scenic corridors in the City's General Plan Background Report (Lincoln 2008c). These waterways are notable for their riparian vegetation and their open space views.

No other scenic viewsheds or scenic highways are identified in the project vicinity.

4.1.1.5 Light and Glare

The project site, as undeveloped agricultural and open space land, does not have existing light or glare sources. Existing light sources include the residential uses to the east of the site, and scattered industrial development to the north, the Lincoln Regional Airport to the northwest, and rural residential development to the west.

4.1.2 Relevant Plans, Policies, and Ordinances

Federal

There are no federal regulations pertaining to visual resources that would apply to the proposed project.

State

The following state regulations would apply to the proposed project.

California Scenic Highway Program

California's Scenic Highway Program was created by the Legislature in 1963 to preserve and protect scenic highway corridors from change which would diminish the aesthetic value of lands adjacent to highways. The state laws governing the Scenic Highway Program are found in the Streets and Highways Code, Section 260 et seq. The State Scenic Highway System includes a list of highways that are either eligible for designation as scenic highways or have been so designated. County roads can also become part of the Scenic Highway System. To receive official designation, the county must follow the same process required for official designation of State Scenic Highways.

There are no designated or eligible highways within the project vicinity (Caltrans 2015). Scenic highways within Placer County include State Route 49, Interstate 80 east of State Route 20, and State Route 89.

Local

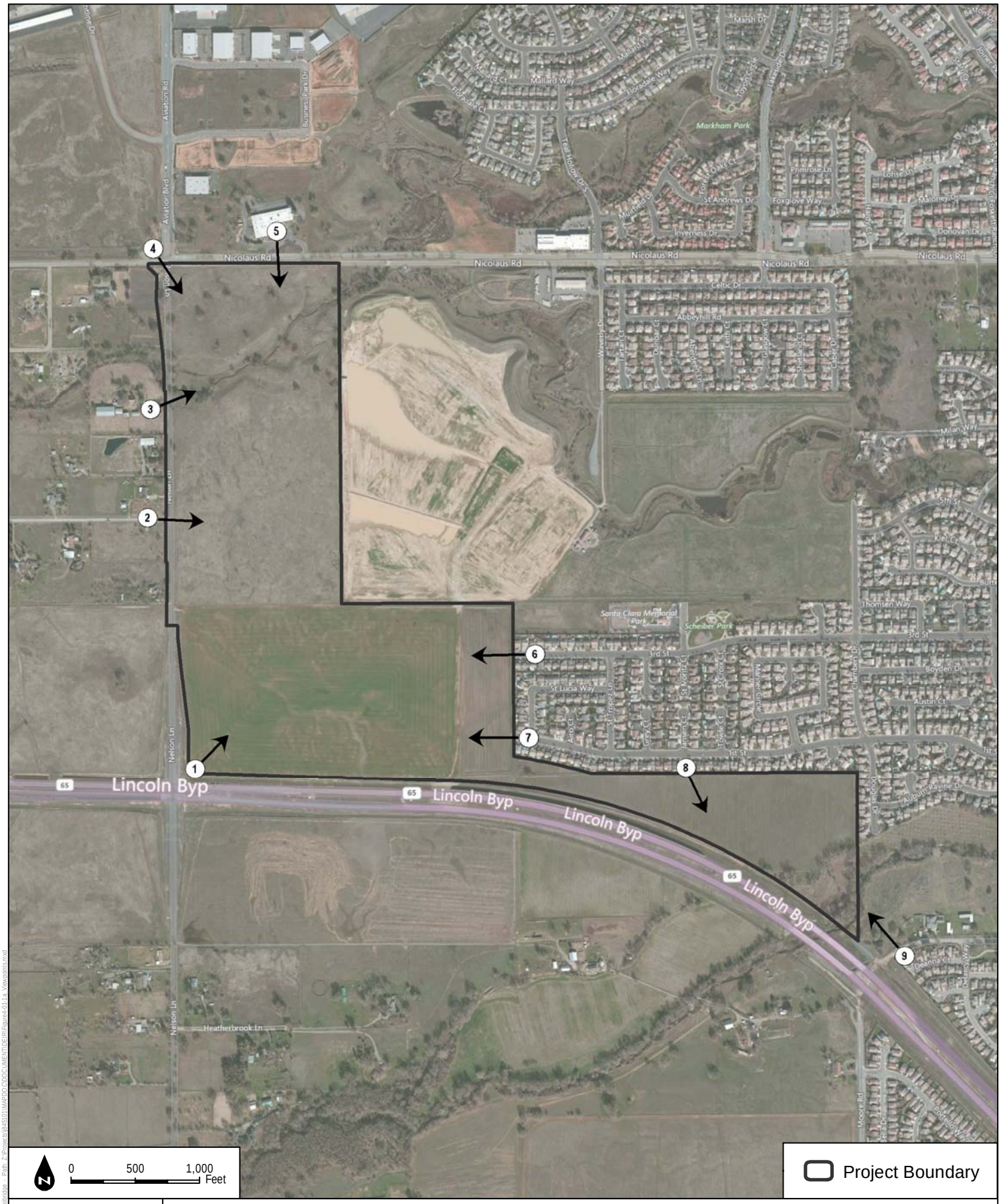
The following local land use policies would apply to the proposed project.

General Plan

The Land Use Element of the Lincoln General Plan provides goals, policies, and programs regarding aesthetics, including the following:

Goal LU-12 To enhance the urban form while maintaining visual and physical access to distinctive environmental features.

Policy LU-12.3 Open Space Views: 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.



SOURCE: Bing Maps (Accessed 2017)

FIGURE 4.1-1A
Viewpoints

DUDEK

SUD-B Northeast Quadrant Specific Plan DEIR

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Viewpoint 1: Looking northeast from SR 65 and Nelson Lane

Viewpoint 2: Looking west from Nelson Lane and Rockwell Lane.

Viewpoint 3: View of Markham Ravine Nelson Lane

Viewpoint 4: Looking southeast from Nicolaus Road and Nelson Lane

Viewpoint 5: Looking south from industrial development on Nicolaus Road

Viewpoint 6: Looking west from the western end of 3rd Street

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Viewpoint 7: Looking west from the western end of 1st Street

Viewpoint 8: Looking southeast from the southern end of Singer Place

Viewpoint 9: Looking northwest to Auburn Ravine from the western end of Moore Road

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Policy LU-12.4 Creek Natural Edges: 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.

Policy LU-12.6 Visual Access to Creeks and Wetland Areas: Wherever practical, the City will encourage new development to be oriented towards adjacent creeks and wetland areas and provide visual access to these areas.

Policy LU-12.9 Neighborhood Character and Identity: The City shall utilize urban design programs, including principles and guidelines, to recognize, maintain, and enhance the character and identity of existing residential and commercial neighborhoods.

The General Plan also includes policies on subdivision design that may be relevant to the proposed project.

Goal 14 To preserve the character and scale of Lincoln's established residential neighborhoods.

Policy LU-14.1 Subdivisions: Where subdivision of existing lots is proposed, the City shall provide that the resultant lots in the proposed subdivision are consistent with the prevailing size and character of lots in the immediate vicinity, and that the subdivision would not have a substantial adverse impact on adjacent residences.

Policy LU-14.2 Distinctive Neighborhoods: 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 context.

Policy LU-14.3 Lot Transition: 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.

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 (further described in Section 4.10, Land Use). Within these zones, the Plan identifies visual characteristics to be avoided, including 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.

4.1.3 Thresholds of Significance

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

1. Have a substantial adverse effect on a scenic vista.
2. Substantially damage scenic resources, including, but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway.
3. Substantially degrade the existing visual character or quality of the site and its surroundings.
4. Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

4.1.4 Impacts Analysis

Impact 4.1-1. The project would not have a substantial adverse effect on a scenic vista.

The project site does not include, and is not within the viewshed, of a scenic vista identified by the City, County, or State. The project would not, therefore, impact a scenic vista. The City general plan does, however, identify the visual importance of open space, creeks, and wetlands. Changes to views of Auburn Ravine and Markham Ravine resulting from the project, and potential loss of open space views, are analyzed in Impact 4.1-3, below. Therefore, there is **no impact** to a scenic vista.

Impact 4.1-2. The project would not substantially damage scenic resources, including, but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway.

As discussed in Section 4.1.2, above, the project site is not within the viewshed of a state scenic highway. The nearest state scenic highway is State Route 49, approximately 13 miles east of the project site. Therefore, there is **no impact**.

Impact 4.1-3. The project would substantially degrade the existing visual character or quality of the site and its surroundings.

As described in Section 4.1.1, the visual character of the project site is currently open space – primarily non-native grasslands, modified by an extensive history of agriculture. The site is crossed by two waterways, Markham Ravine and Auburn Ravine, and a small patch of oak woodlands in the southeast corner. The site has no permanent structures. The visual quality is considered moderate – open space with scattered trees and little variation in topography, with two narrow riparian corridors. Long range background views from the western edge of the site include the Sierra foothills.

The majority of the project would be converted to residential and commercial urban development. Existing open space views for the rural residential residents to the west, and the single family subdivision to the east would be impacted. The rural residences west of the project site are set back a sufficient distance that the background views would not be blocked (although the foreground/middleground views would be substantially changed).

The proposed project would maintain and enhance the two riparian corridors. Consistent with the City's General Plan (Policies LU-12.4 and LU-12.6), adjacent development would face towards the ravines. North of Auburn Ravine, the project would include a small park between the riparian area and residential development. Existing residential viewers (Joiner Park West) may have existing views of Auburn Ravine that would be impacted.

The construction of additional soundwalls on the southern boundary of the site would increase the amount of the project area visually blocked from SR 65. Existing views of Auburn Ravine would be maintained. Traffic on a non-scenic highway, and not near a designated vista or recreational area, is not considered a sensitive viewer group. In addition, time of exposure would be relatively limited for vehicles travelling at highway speeds.

The proposed project would represent an orderly extension of the visual character of the residential neighborhoods east of the site, giving way to new commercial development towards the western side of the project site. The General Development Plan for the project requires design standards, consistent with General Plan policies (including LU 12.9 and LU-14.1), to maintain the quality of residential and commercial designs. While the project would result in a change in visual character, proper use of design and materials, and maintenance of open space areas and trails, would maintain visual quality. Landscaping would be required, particularly for the commercial uses.

The two most notable visual resources are the two waterways and the background views of the Sierra foothills. Markham and Auburn Ravine which would be visually addressed by the project consistent with General Plan policies (maintaining adjacent street views and opening

development towards the waterways) and would be visually enhanced through revegetation of the non-native plants. Background views from rural residential viewers on the western side of the project site would not be substantially affected, due to their set back distance from Nelson Lane.

The most substantial visual change would be for the backyard views of the residential subdivisions west of the project site. The project site, as discussed above, is not exceptional, and the project development would be consistent with the character, scale, and quality of the existing development. Therefore, aesthetic impacts would be **less than significant**.

Impact 4.1-4. The project would potentially create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

The project site does not have existing light or glare sources. Existing light sources include the residential uses to the east of the site, and scattered industrial development to the north, the Lincoln Regional Airport to the northwest, and rural residential development to the west.

Commercial and residential development represents a new source of lighting. Commercial buildings may also introduce a potential glare source, if mirrored or highly reflective building finishes are used.

The General Development Plan, which would be adopted as part of the proposed project, requires that the project incorporate "low-energy, shielded light fixtures that direct light downward to minimize glare (Section 3.13)." Lighting from residential areas and along streets and trails should be designed to avoid spilling over into open space areas. In addition, the commercial lighting guidelines state: "Lighting for non-residential development should be screened from direct view from adjacent residential uses. Lighting for non-residential development should be designed to minimize glare, obtrusive light and artificial sky glow by limiting lighting that is misdirected, excessive or unnecessary (Section 3.9.2)."

The Placer County Airport Land Use Compatibility Plan notes the potential for visual impacts within the airport's compatibility zones (the project site is within zones C1 and C2). Specifically the plan notes that the following should be avoided: 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. No industrial uses are proposed that would result in substantial sources of dust, steam or smoke (or electronic interference). However, the GDP does not specifically address sources of glare or bright lights relative to the airport. Therefore, highly reflective building features or light sources, could be found incompatible with the Airport Land Use Compatibility Plan, which would be a **potentially significant** impact. Implementation of

Mitigation Measure AES-1 would ensure that future development was consistent with the plan and would not create a hazard to aircraft navigation.

The required General Development Plan, combined with Mitigation Measure AES-1, would reduce any potential lighting and glare impacts to less than significant.

4.1.5 Mitigation Measures

The following mitigation measure(s) would reduce the potential for aesthetic impacts.

MM-AES-1 Commercial development shall avoid mirrored or highly reflective building finish materials, and shall avoid excessively bright upward lighting, such as search lights, laser light displays, or distracting lights that could be mistaken for airport lights.

4.1.6 Level of Significance After Mitigation

Lighting and glare is a potentially significant impact. Implementation required General Development Plan, combined with Mitigation Measure AES-1, would reduce any potential lighting and glare impacts to less than significant.

4.1.7 Cumulative Analysis

Impact 4.1-5. The project, in combination with other development, would cumulatively degrade the existing visual character or quality of the site and its surroundings.

The City's General Plan EIR analyzes the cumulative impacts to visual resources, including the area containing the project site. The General Plan EIR finds that buildout of the general plan "would result in several permanent changes to existing views associated with new "Village" development in the western, northern, and eastern portions of the study area. As this new development is proposed on land currently used for a variety of rural residential, agricultural, and open space uses, new development would alter the existing open space views of surrounding visible areas and contrast with the surrounding open space/agricultural environment at the edge of these new development areas."

The Village 5 EIR found that development of Village 5 would have a significant effect on visual character or quality, and would contribute to a cumulative visual impact. The Independence Draft EIR noted that the project would change the character and quality of the project site but that such changes would be less than significant.

Based on the analysis of the General Plan and Village 5 EIRs, there is a cumulative loss of visual open space. The project would contribute to this loss by converting approximately 160 acres of existing open space to urban uses. The cumulative impact is therefore **potentially significant**. The

implementation of the required General Development Plan, including preservation of the riparian corridors, would reduce this visual impact, but not a level less than significant. No other feasible mitigation measures are available that would avoid the loss of existing open space. Therefore, the project's cumulative impact to visual character and quality is **significant and unavoidable**.

4.1.8 References

City of Lincoln. 2008. *City of Lincoln General Plan Background Report.* Prepared by Mintier & Associates. Sacramento, California: Mintier & Associates. March 2008.

4.2 AGRICULTURE AND FORESTRY RESOURCES

This section describes agricultural resources, including farmland and forestland, and discusses applicable federal, state, and regional regulations pertaining to protection of air quality. This section evaluates the potential effects on agricultural 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 one comment regarding agricultural resources. Commenter stated that dust from agricultural activities has been a source of complaint from existing residents.

4.2.1 Existing Conditions

Farmland

The project area is undeveloped. The entire western portion and most of the eastern portion of the Peery Property have been disked, seeded, and mowed annually for hay production for over 40 years. The western portion, which retains much of the natural topography, is dry farmed, while the eastern portion has been leveled and flood irrigated for many years. The Gill property has not been disked for some time, and appears to maintain more of its natural topography.

The California Department of Conservation, Division of Land Resources Protection, operates the Farmland Mapping and Monitoring Program (FMMP). The FMMP maps the state's farmland resources and monitors the conversion of farmland to (and from) other land uses. As shown in Figure 4.2-1, the FMMP categorizes the Gill and the western half of the Peery property as Farmland of Local Importance. The eastern half of the Peery property ~~is mostly~~ was previously categorized as Prime Farmland, with portions of Farmland of Statewide Importance, Farmland of Local Importance, and Other Land. This parcel is now separated from Prime Farmland to the south by the construction of the SR 65 Bypass. The small portion of the project site within the City of Lincoln is designated as Urban. The Division of Land Resources Protection has acknowledged that as of 2010, the farmlands on the Peery property were not used as irrigated farmland (CDOC 2018). As these lands would have been unirrigated for over four years at the time of the Notice of Preparation, April 1, 2015, they should have been identified as Farmland of Local Importance for purposed of the environmental baseline. Revised Table 4.2-1 provides acreages for the various farmland categories within the project area.

Table 4.2-1 (Revised)
Important Farmland

FMMP Category	Acreage
Prime Farmland	~~22.9~~ 0
Farmland of Statewide Importance	~~1.7~~ 0
Farmland of Local Importance	~~156.5~~ 181.1
Other Land	5.2
Urban and Built Up Land (including existing roadways)	12.1
Total	**198.4**

Source: FMMP 2014

The FMMP categories relevant to the project site are defined as follows:

Prime Farmland

Farmland with the best combination of physical and chemical features able to sustain long term agricultural production. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.

Farmland of Statewide Importance

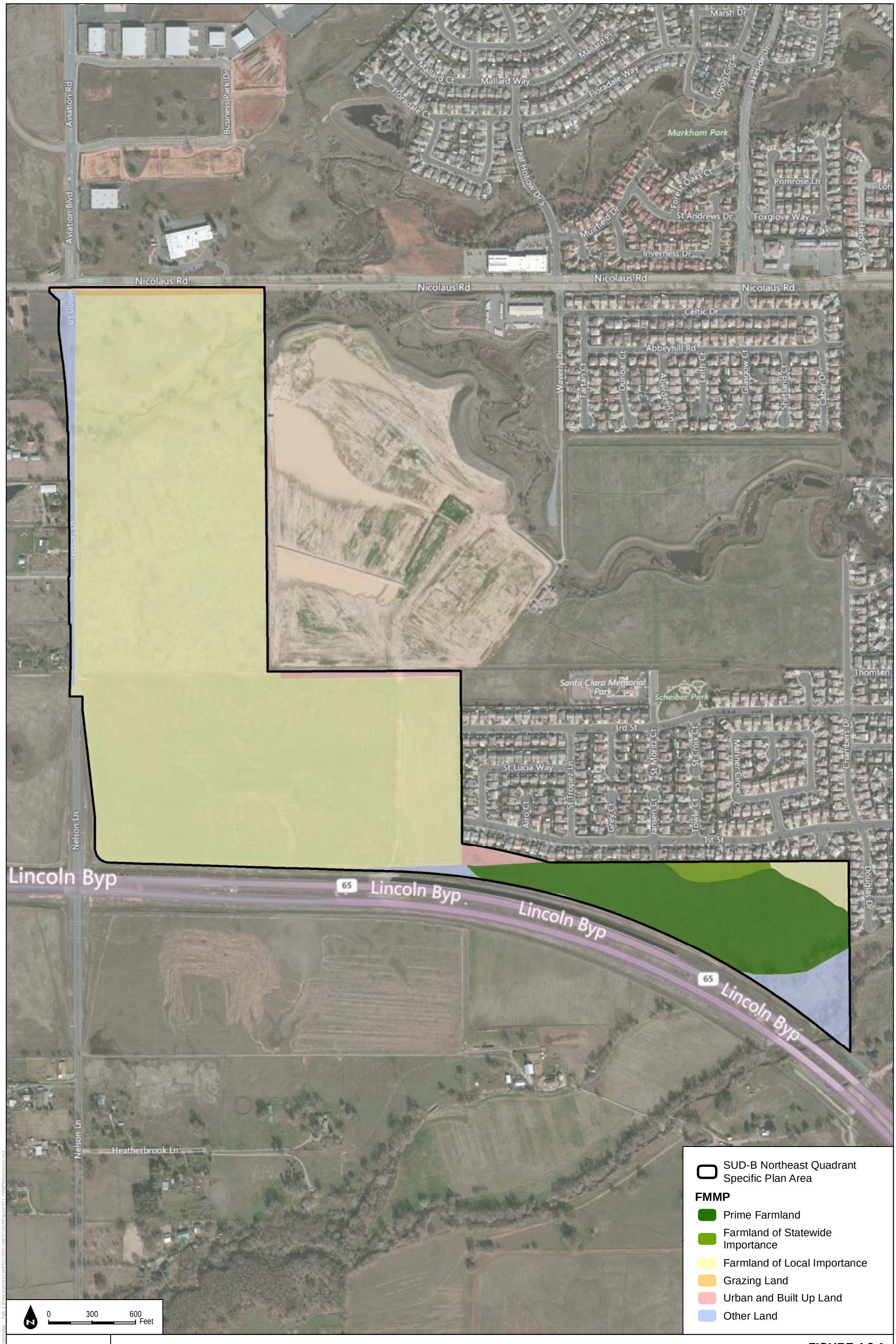
Farmland similar to Prime Farmland but with minor shortcomings, such as greater slopes or less ability to store soil moisture. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.

Farmland of Local Importance

Land of importance to the local agricultural economy as determined by each county's board of supervisors and a local advisory committee.

Urban and Built-up Land

Land occupied by structures with a building density of at least 1 unit to 1.5 acres, or approximately 6 structures to a 10-acre parcel. This land is used for residential, industrial, commercial, construction, institutional, public administration, railroad and other transportation yards, cemeteries, airports, golf courses, sanitary landfills, sewage treatment, water control structures, and other developed purposes. The Urban Land on the project site consists of the vacant residentially zoned land with the City limits and roadways.



SOURCE: Bing Maps (Accessed 2017); Department of Conservation: Williamson Act (2008); FMMP (2012); Placer County (2011)

FIGURE 4.2-1

Williamson Act and FMMP Map

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SUD-B Northeast Quadrant Specific Plan DEIR

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Other Land

Land not included in any other mapping category. Common examples include low density rural developments; brush, timber, wetland, and riparian areas not suitable for livestock grazing; confined livestock, poultry or aquaculture facilities; strip mines, borrow pits; and water bodies smaller than forty acres. Vacant and nonagricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as Other Land. The Other Land identified on the project site is associated with Auburn Ravine.

Soil Types

The United States Department of Agriculture Natural Resources Conservation Service (NRCS) conducts soil surveys and creates maps representing the location and type of soil in order to aid in agricultural, conservation, and land use decisions. The project site includes several soils that meet the criteria for Prime Farmlands, per the NRCS. These include Kilaga loam, Ramona sandy loam, and Xerofluvents (occasionally flooded). A full description of the soil types within the project area are discussed in Chapter 4.6, Geology and Soils.

4.2.2 Relevant Plans, Policies, and Ordinances

Federal

Federal agencies must consider the impacts to Prime Farmland resulting from their actions under the Farmland Protection Policy Act (7 U.S.C. Sections 4201 et seq.). This requirement does not apply to the proposed project.

State

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

Williamson Act

The Williamson Act (California Government Code § 51200), also known as the California Land Conservation Act of 1965, is the premier legislation for the protection of agricultural land in California. The act underscores the importance of preserving a maximum amount of the state's agricultural land as an economic asset that provides for the generation of adequate and nutritious food resources for the nation and state into the future. The Williamson Act operates through 10-year contracts with agricultural landowners that confirm that agricultural land is being preserved as the land's best use while providing a substantial property tax break for the landowner. The property's agricultural value is assessed and the landowner under contract is dismissed from property taxes according to the property's urban development potential.

After the 10-year contract period, the contract is automatically renewed unless the landowner submits a notice of nonrenewal with the County. Upon annexation to a city, lands tied to Williamson Act contracts have their contracts managed by the city until the contract is cancelled or expires.

Cortese Knox Herzberg Act

The Cortese-Knox-Hertzberg (CKH) Local Government Reorganization Act of 2000 (California Government Code § 56000 et seq.) establishes a local agency formation commissions (LAFCO), by county, and defines its jurisdiction and procedures. CKH gives the LAFCO the power to "approve or disapprove with or without amendment, wholly, partially or conditionally" proposals concerning the formation of cities and special districts, annexation or detachment of territory to cities and special districts, and other changes in jurisdiction or organization of local government agencies. One of the factors to be considered by the LAFCO is to direct urban development away from open space and prime agricultural lands when non-prime lands are available.

Farmland Mapping and Monitoring Program

The Farmland Mapping and Monitoring Program (FMMP) is a non-regulatory program implemented by the California Department of Conversation, Division of Land Resource Protection. Government Code § 65570 mandates FMMP to biennially report to the Legislature on the conversion of farmland and grazing land, and to provide maps and data to local government and the public. FMMP produces Important Farmland Maps, which are a hybrid of resource quality (soils) and land use information, based on the prior federal Natural Resource Conservation Service program. Land is classified into eight categories. Prime Farmland, Farmland of Statewide Importance, and Unique Farmland are considered "Important Farmland" for the purposes of CEQA (the conversion of which may be a significant impact).

Local

The following local/regional regulations pertaining to agriculture would apply to the proposed project.

General Plan

The Land Use Element of the City of Lincoln 2050 General Plan provides objectives, policies, and programs regarding agricultural and forestry resources, including the following:

Policy LU-5.3 The City shall ensure that agricultural land uses are not prematurely terminated by protecting the continued operation of agricultural land uses.

Policy 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.

Policy LU-5.5 Residential developments located next to active agricultural areas will have a notice included in the deed notifying buyers of the agricultural use.

Placer County Right-to-Farm Ordinance

Placer County has adopted a Right-to-Farm Ordinance with the intent of reducing the loss of the County's commercial agricultural resources by limiting the circumstances under which agricultural operations may be deemed to constitute a nuisance (Placer County Code 5.24.040). The ordinance is as follows:

A. It is the declared policy of the county of Placer to preserve, protect and encourage the development and improvement of its agricultural land for the production of food and other agricultural products. When nonagricultural land uses extend into the agricultural areas, agricultural operations often become the subject of nuisance suits. As a result, agricultural operations are sometimes forced to cease or are substantially curtailed. Others may be discourages from making investments in agricultural improvements. It is the purpose of this section to reduce the loss to the county of its commercial agricultural resources by limiting the circumstances under which agricultural operations may be deemed to constitute a nuisance.

B. No agricultural activity, operation, or facility, or appurtenances thereof, conducted or maintained for commercial purposes, and in a manner consistent with proper and accepted customs and standards, as established and followed by similar agricultural operations, shall be or become a nuisance, private or public, due to any changed condition in or about the locality, after the same has been in operation for more than one year if it was not a nuisance at the time it began.

C. For purpose of this section, the term "agricultural activity, operation, or facility, or appurtenances thereof" shall include, but not be limited to, the cultivation and tillage of soil, dairying, the production, cultivation, growing, and harvesting of any agricultural commodity including timber, Christmas trees, viticulture, apiculture, nursery stock, or horticulture, the raising of livestock, fur bearing animals, fish, or poultry, and game birds, and any practices performed by a farmer or on a farm as incident to or in conjunction with such farming operations, including preparation for market, delivery to storage, or to market, or to carriers for transportation to market.

D. For the purpose of this section, commercial "agriculture" means those agricultural lands in designated areas, or those lands that are within the California Land Conservation Act, or

within a timber preserve zone or those lands that produce a gross annual income of four thousand five hundred dollars ($4,500.00) from the sale of agricultural products.

E. Each prospective buyer of property in unincorporated Placer County shall be informed by the seller or his/her authorized agent of the right-to-farm ordinance. The seller or his/her authorized agent will keep on file a disclosure statement signed by the buyer with the escrow process.

F. Whenever a building designated for residential occupancy is to be located on property in the unincorporated area of Placer County, the owners of the property, or their authorized agent, shall acknowledge receipt of the right-to-farm ordinance. (Ord. 4983-B, 1999: prior code § 5.715)

Placer County LAFCO

The Placer County Local Agency Formation Commission (LAFCO) is charged with reviewing proposals for the creation of new cities or special districts and the annexation of land to local jurisdictions. The majority of this project will require annexation into the City of Lincoln – only one acre of the project site is currently within City limits (APN 009-031-028). The LAFCO must consider the conservation of agricultural land. Approval for the proposed annexation for this project will be administered by the Placer County LAFCO. The information provided in this EIR will be considered by the Placer County LAFCO in its review of the project.

The following LAFCO policy originates from the commission's guidelines and policies for execution of its objectives. Policies are used as guidance and may not relate to direct actions by local jurisdictions.

The following LAFCO policy relates to agriculture:

> 2. PRESERVE AGRICULTURAL LAND AND OPEN SPACE RESOURCES
>
> (1) POLICY: 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) POLICY: 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) POLICY: 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.

4.2.3 Thresholds of Significance

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

1. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use.
2. Conflict with existing zoning for agricultural use, or a Williamson Act contract.
3. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g)).
4. Result in the loss of forest land or conversion of forest land to non-forest use.
5. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use.

The project site does not include forest lands, or land zoned for forest land or timberland. It does contain a small area of Oak Woodlands near Auburn Ravine. Impacts to this resource are discussed in Chapter 4.4, Biological Resources.

4.2.4 Impacts Analysis

4.2.4.1 Methods of Analysis

The project setting was developed by reviewing FMMP data and Williamson Act contract information from the California Department of Conservation. This review was supplemented with field observations (as part of the biological resources studies). In addition, the Department of Conservation provided a letter revising the FMMP classification for the Peery property (CDOC 2018).

4.2.4.2 Analysis

Impact 4.2-1. The project would convert Prime Farmland and Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use.

The project area does not include~~s 22.9 acres of~~ Prime Farmland ~~and 1.7 acres of~~ or Farmland of Statewide Importance, as described in Section 4.2.1. ~~Thus, the total Important Farmland on the project site is 24.6 acres.~~ The project area is comprised mainly of Farmland of Local Importance. Therefore, farmland conversion impact would be **less than significant**.

~~The 24.6 acres of Important Farmland would be converted to urban uses (residential and commercial development). Although a small portion of this land would be used open space or parks, it would be permanently converted to a non-agricultural use. This is a **potentially significant** impact.~~

Impact 4.2-2. The project would not significantly conflict with existing zoning for agricultural use, or a Williamson Act contract.

The proposed project would change the land use designation of three parcels within the City's Sphere of Influence, in Placer County, and one parcel within the City limits. Of these parcels, the three southernmost parcels are currently designated agricultural/timberland at 80-acre minimum density. With the exception of the parcel within the City limits, which is zoned Residential RD-5, these parcels are zoned Farm-Building Site Special Purpose 80-Acre Minimum. The northernmost parcel is zoned Farm-Building Site Special Purpose 5-Acre Minimum.

The project would redesignate these parcels for commercial, low-density residential, park/recreation, and open space uses. The agriculturally zoned County parcels would be rezoned for urban uses upon approval of the Specific Plan and annexation into the city. The physical effect of this rezoning is described in Impact 4.2-1, above.

The Peery property was subject to a previous Williamson Act contract. This contract was placed into nonrenewal in 2008. Nonrenewal is a five year process. The property is no longer encumbered by a Williamson Act contract. Therefore, the project would not conflict with an existing Williamson Act contract. This impact is **less than significant**.

Impact 4.2-3. The project would not involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use.

Urban ~~conversion of Farmland~~ development may impact nearby agricultural operations. Agricultural operations may become constrained, due to concerns with the effects of dust, odor, noise and pesticide-use on nearby residential uses. In addition, urban effects, such as vandalism, garbage, and predation by domestic pets (cats and dogs) can impact agricultural uses. These are often identified as "edge effects," as the urban edge interacts with agriculture.

There is farmland south of the SR 65 Bypass and west of Nelson Lane. Agricultural uses west of Nelson Lane are shielded by the proposed commercial uses east of Nelson Lane, and by rural residential uses west of Nelson Lane. These buffers would reduce the edge effects. The interaction between the residential areas north of the SR 65 bypass and the farmland on the other side is of greater concern. The installation of sound walls, the planned open space buffer, and the highway itself would provide a suitable buffer between these two uses. This buffer, combined with the City requirement to notify residents of new development regarding ongoing agricultural activities would reduce the potential impact to **less than significant**.

4.2.5 Mitigation Measures

~~Mitigation measures to reduce or avoid the conversion of farmland typically focus on avoidance, restoration (typically after some temporary disturbance such as construction), delaying the conversion, or providing some form of compensation. Avoidance is not feasible, based on the location of the Important Farmland. It would essentially become an island, too small to remain economically viable. Restoration would not be possible, as the conversion would effectively be permanent. Phasing of development is often uses as a tool to reduce the impact of farmland conversion by delaying premature conversion of agricultural areas. The proposed project does include formal phasing. However, the development for the residential areas would likely move from east to west, in order to efficiently connect to the existing neighborhoods and avoid "leapfrogging." Therefore, phasing would not reduce the impact of conversion in this instance.~~

~~Therefore, the only feasible mitigation measure would be compensation by acquiring the development rights on other farmland. This can be done by acquiring farmland, or through the use of an Agricultural Conservation Easement (ACE). Mitigation Measure AG-1 describes the requirement for acquiring compensatory farmland.~~ Mitigation is not required, as the project would not result in a significant impact to agricultural resources.

~~**MM AG-1** For each acre of Important Farmland converted (including Prime Farmland and Farmland of Statewide Importance); the project applicant shall obtain Farmland at a ratio of 1:1 to be conserved in perpetuity. The Farmland conserved shall be of~~

~~equal or greater quality, as determined by the best available soil survey information. The following methods of conservation are acceptable:~~

- ~~Participation in the Placer County Conservation Plan, if it is in effect at the time of this requirement.~~
- ~~Obtain title for the farmland (fee simple) and dedicate the land to a qualified open space or farmland trust organization.~~
- ~~Obtain an Agricultural Conservation Easement (ACE) that would remove the development rights from the property and preserve it for agricultural use. The ACE shall be held by a qualified land trust.~~

~~A qualified land trust is one with a demonstrated ability to manage and maintain agricultural lands. The City of Lincoln shall solely determine whether or not an organization is qualified. This mitigation requirement shall be implemented prior to the recording of a Final Subdivision Map (or in the absence of a Subdivision Map, the filing of a Parcel Map) for any land within the project boundary that includes Important Farmland (as identified in the 2014 FMMP).~~

4.2.6 Level of Significance After Mitigation

~~Implementation of the above mitigation measures would reduce potential impacts by conserving an equivalent amount of Farmland. However, there would still be a net loss of 26 acres of Important Farmland within the region. Therefore, the impact is **significant and unavoidable** after implementation of all feasible mitigation measures.~~ Mitigation is not required, as the project would not result in a significant impact.

4.2.7 Cumulative Analysis

Other past, present, and reasonably foreseeable projects would result in the conversion of Important Farmland to non-agricultural uses. The Lincoln General Plan EIR identifies the conversion of Important Farmland as a significant and unavoidable impact. Village 5 and SUD-B would convert approximately 2,000 acres of Important Farmland at full buildout. Independence at Lincoln, as a former wastewater facility site, does not contain Important Farmland. This represents a significant cumulative impact ~~to which the proposed project would contribute~~. ~~Thus Impact 4.2-1 can be considered both direct and cumulative. Mitigation Measure AG-1 would reduce but not avoid the significant impact for conversion of Important Farmland. There is no additional mitigation measure, either to address direct conversion or cumulative loss of farmland associated with the project. Therefore, the cumulative impact of farmland conversion is **significant and unavoidable**.~~ As the project would not result in the conversion of Important Farmland, it would not contribute to the cumulative impact of farmland conversion.

The project site does not contain land currently under a Williamson Contract, and therefore would not contribute to a cumulative impact to contracted lands. As discussed in Impact 4.2-3, the project would not result in significant "edge effects" and would not indirectly contribute to a cumulative loss of farmland.

4.2.8 References

7 U.S.C. Sections 4201—4209. Farmland Protection Act.

California Department of Conservation (CDOC). 2018. Division of Land Resource Protection. "Placer County Important Farmland Map reclassification request, APN 021-262-035." November 6, 2018.

California Government Code Sections 51200—51297. Land Conservation Act of 1965.

California Government Code Sections 56000—57550. Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000.

FMMP (Farmland Mapping and Monitoring Program). 2014. California Department of Conservation, Division of Land Resource Protection, Farmland Mapping and Monitoring Program. *Placer County Important Farmland.* 2014

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4.3 AIR QUALITY

This section describes air quality in the project area and discusses applicable federal, state, and regional regulations pertaining to protection of air quality. This section evaluates the potential effects on air quality associated with construction and operation of the SUD-B Northeast Quadrant Specific Plan (proposed project) and identifies mitigation measures where appropriate.

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 air quality 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 4.3.8, References.

4.3.1 Existing Conditions

4.3.1.1 General Climate and Meteorology

Air quality is affected by the rate, amount, and location of pollutant emissions and the associated meteorological conditions that influence pollutant movement and dispersal. Atmospheric conditions (for example, wind speed, wind direction, and air temperature) in combination with local surface topography (for example, geographic features such as mountains and valleys), determine how air pollutant emissions affect local air quality.

The proposed project is located in western Placer County, which falls within the Sacramento Valley Air Basin (SVAB) and is within the jurisdictional boundaries of the PCAPCD. The climate is characterized by hot, dry summers and cool, rainy winters. Most precipitation in the SVAB results from air masses moving in from the Pacific Ocean during the winter months. Storms usually move through the area from the west or northwest. Over half the total annual precipitation falls during the winter rainy season (November through February), while the average winter temperature is a moderate 49 degrees Fahrenheit (49°F). Winter weather in the SVAB typically includes periods of dense and persistent low-level fog, which are most prevalent between storms. From May to October, the region's intense heat and sunlight lead to high ozone concentrations. During the summer, daytime temperatures can exceed 100°F, while the average daytime temperatures from April through October are between 70°F and 90°F with extremely low humidity.

Prevailing winds are from the south and southwest, and as a result, air quality in the western Placer County is influenced by mobile and stationary air pollution sources located upwind in the Sacramento Metropolitan Area. The inland location and surrounding mountains shelter the valley from much of the ocean breeze that keeps the coastal regions moderate in temperature. The only breach in the mountain barrier is the Carquinez Strait, which exposes the midsection of the valley to the coastal air mass. Air flow into the SVAB through the Carquinez Strait also carries pollutants from the San Francisco Bay Area into the SVAB.

Air quality in Placer County is also affected by inversion layers, which occur when a layer of warm air traps a layer of cold air, preventing vertical dispersion of air contaminants. The presence of an inversion layer results in higher concentrations of pollutants near ground level. Summer inversions are strong and frequent, but are less troublesome than those that occur in the autumn. Autumn inversions, formed by warm air subsiding in a region of high pressure, have accompanying light winds that do not provide adequate dispersion of air pollutants.

4.3.1.2 Pollutants and Effects

Criteria Air Pollutants

Criteria air pollutants are defined as pollutants for which the federal and state governments have established ambient air quality standards, or criteria, for outdoor concentrations to protect public health. The federal and state standards have been set, with an adequate margin of safety, at levels above which concentrations could be harmful to human health and welfare. These standards are designed to protect the most sensitive persons from illness or discomfort. Pollutants of concern include ozone (O_3), nitrogen dioxide (NO_2), carbon monoxide (CO), sulfur dioxide (SO_2), coarse particulate matter (PM_{10}, particles less than 10 microns in diameter), fine particulate matter ($PM_{2.5}$, particles less than 2.5 microns in diameter), and lead. These pollutants, as well as toxic air contaminants (TACs), are discussed in the following paragraphs.[1] In California, sulfates, vinyl chloride, hydrogen sulfide, and visibility-reducing particles are also regulated as criteria air pollutants.

Ozone. O_3 is a strong-smelling, pale blue, reactive, toxic chemical gas consisting of three oxygen atoms. It is a secondary pollutant formed in the atmosphere by a photochemical process involving the sun's energy and O_3 precursors. These precursors are mainly oxides of nitrogen (NO_x) and reactive organic gases (ROG, also termed volatile organic compounds [VOCs]). The maximum effects of precursor emissions on O_3 concentrations usually occur several hours after they are emitted and many miles from the source. Meteorology and terrain play major roles in O_3 formation, and ideal conditions occur during summer and early autumn on days with low wind

[1] The descriptions of each of the criteria air pollutants and associated health effects are based on the EPA's Criteria Air Pollutants (2017a), the CARB Glossary of Air Pollutant Terms (2016a), and CARB's "Fact Sheet: Air Pollution Sources, Effects, and Control" (CARB 2009).

speeds or stagnant air, warm temperatures, and cloudless skies. O_3 exists in the upper atmosphere O_3 layer (stratospheric ozone) and at the Earth's surface in the troposphere (ozone).[2] The O_3 that the U.S. Environmental Protection Agency (EPA) and the California Air Resources Board (CARB) regulate as a criteria air pollutant is produced close to the ground level, where people live, exercise, and breathe. Ground-level O_3 is a harmful air pollutant that causes numerous adverse health effects and is thus considered "bad" O_3. Stratospheric, or "good," O_3 occurs naturally in the upper atmosphere, where it reduces the amount of ultraviolet light (i.e., solar radiation) entering the Earth's atmosphere. Without the protection of the beneficial stratospheric O_3 layer, plant and animal life would be seriously harmed.

O_3 in the troposphere causes numerous adverse health effects; short-term exposures (lasting for a few hours) can result in breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of the lung tissue, and some immunological changes (EPA 2013). These health problems are particularly acute in sensitive receptors such as the sick, the elderly, and young children.

Nitrogen Dioxide. NO_2 is a brownish, highly reactive gas that is present in all urban atmospheres. The major mechanism for the formation of NO_2 in the atmosphere is the oxidation of the primary air pollutant nitric oxide, which is a colorless, odorless gas. NO_x plays a major role, together with ROG, in the atmospheric reactions that produce O_3. NO_x is formed from fuel combustion under high temperature or pressure. In addition, NO_x is an important precursor to acid rain and may affect both terrestrial and aquatic ecosystems. The two major emissions sources are transportation and stationary fuel combustion sources such as electric utility and industrial boilers.

NO_2 can irritate the lungs, cause bronchitis and pneumonia, and lower resistance to respiratory infections (EPA 2017a).

Carbon Monoxide. CO is a colorless, odorless gas formed by the incomplete combustion of hydrocarbon, or fossil fuels. CO is emitted almost exclusively from motor vehicles, power plants, refineries, industrial boilers, ships, aircraft, and trains. In urban areas, automobile exhaust accounts for the majority of CO emissions. CO is a nonreactive air pollutant that dissipates relatively quickly; therefore, ambient CO concentrations generally follow the spatial and temporal distributions of vehicular traffic. CO concentrations are influenced by local meteorological conditions—primarily wind speed, topography, and atmospheric stability. CO from motor vehicle exhaust can become locally concentrated when surface-based temperature inversions are combined with calm atmospheric conditions, which is a typical situation at dusk in urban areas from November to February. The highest levels of CO typically occur during the colder months of the year, when inversion conditions are more frequent.

[2] The troposphere is the layer of the Earth's atmosphere nearest to the surface of the Earth. The troposphere extends outward about 5 miles at the poles and about 10 miles at the equator.

In terms of adverse health effects, CO competes with oxygen, often replacing it in the blood, reducing the blood's ability to transport oxygen to vital organs. The results of excess CO exposure can include dizziness, fatigue, and impairment of central nervous system functions.

Sulfur Dioxide. SO_2 is a colorless, pungent gas formed primarily from incomplete combustion of sulfur-containing fossil fuels. The main sources of SO_2 are coal and oil used in power plants and industries; as such, the highest levels of SO_2 are generally found near large industrial complexes. In recent years, SO_2 concentrations have been reduced by the increasingly stringent controls placed on stationary source emissions of SO_2 and limits on the sulfur content of fuels.

SO_2 is an irritant gas that attacks the throat and lungs and can cause acute respiratory symptoms and diminished ventilator function in children. When combined with particulate matter, SO_2 can injure lung tissue and reduce visibility and the level of sunlight. SO_2 can also yellow plant leaves and erode iron and steel.

Particulate Matter. Particulate matter pollution consists of very small liquid and solid particles floating in the air, which can include smoke, soot, dust, salts, acids, and metals. Particulate matter can form when gases emitted from industries and motor vehicles undergo chemical reactions in the atmosphere. $PM_{2.5}$ and PM_{10} represent fractions of particulate matter. Coarse particulate matter (PM_{10}) consists of particulate matter that is 10 microns or less in diameter and is about 1/7 the thickness of a human hair. Major sources of PM_{10} include crushing or grinding operations; dust stirred up by vehicles traveling on roads; wood-burning stoves and fireplaces; dust from construction, landfills, and agriculture; wildfires and brush/waste burning; industrial sources; windblown dust from open lands; and atmospheric chemical and photochemical reactions. Fine particulate matter ($PM_{2.5}$) consists of particulate matter that is 2.5 microns or less in diameter and is roughly 1/28 the diameter of a human hair. $PM_{2.5}$ results from fuel combustion (e.g., from motor vehicles and power generation and industrial facilities), residential fireplaces, and woodstoves. In addition, $PM_{2.5}$ can be formed in the atmosphere from gases such as sulfur oxides (SO_x), NO_x, and ROG.

$PM_{2.5}$ and PM_{10} pose a greater health risk than larger-size particles. When inhaled, these tiny particles can penetrate the human respiratory system's natural defenses and damage the respiratory tract. $PM_{2.5}$ and PM_{10} can increase the number and severity of asthma attacks, cause or aggravate bronchitis and other lung diseases, and reduce the body's ability to fight infections. Very small particles of substances such as lead, sulfates, and nitrates can cause lung damage directly or be absorbed into the blood stream, causing damage elsewhere in the body. Additionally, these substances can transport adsorbed gases such as chlorides or ammonium into the lungs, also causing injury. Whereas PM_{10} tends to collect in the upper portion of the respiratory system, $PM_{2.5}$ is so tiny that it can penetrate deeper into the lungs and damage lung tissue. Suspended particulates also damage and discolor surfaces on which they settle and produce haze and reduce regional visibility.

People with influenza, people with chronic respiratory and cardiovascular diseases, and the elderly may suffer worsening illness and premature death as a result of breathing particulate matter. People with bronchitis can expect aggravated symptoms from breathing in particulate matter. Children may experience a decline in lung function due to breathing in PM_{10} and $PM_{2.5}$ (EPA 2009).

Lead. Lead in the atmosphere occurs as particulate matter. Sources of lead include leaded gasoline; the manufacturing of batteries, paints, ink, ceramics, and ammunition; and secondary lead smelters. Prior to 1978, mobile emissions were the primary source of atmospheric lead. Between 1978 and 1987, the phaseout of leaded gasoline reduced the overall inventory of airborne lead by nearly 95%. With the phaseout of leaded gasoline, secondary lead smelters, battery recycling, and manufacturing facilities are becoming lead-emissions sources of greater concern.

Prolonged exposure to atmospheric lead poses a serious threat to human health. Health effects associated with exposure to lead include gastrointestinal disturbances, anemia, kidney disease, and in severe cases, neuromuscular and neurological dysfunction. Of particular concern are low-level lead exposures during infancy and childhood. Such exposures are associated with decrements in neurobehavioral performance, including intelligence quotient performance, psychomotor performance, reaction time, and growth. Children are highly susceptible to the effects of lead.

Sulfates. Sulfates are the fully oxidized form of sulfur, which typically occur in combination with metals or hydrogen ions. Sulfates are produced from reactions of SO_2 in the atmosphere and can result in respiratory impairment, as well as reduced visibility.

Vinyl Chloride. Vinyl chloride is a colorless gas with a mild, sweet odor, which has been detected near landfills, sewage plants, and hazardous waste sites, due to the microbial breakdown of chlorinated solvents. Short-term exposure to high levels of vinyl chloride in air can cause nervous system effects, such as dizziness, drowsiness, and headaches. Long-term exposure through inhalation can cause liver damage, including liver cancer.

Hydrogen Sulfide. Hydrogen sulfide is a colorless and flammable gas that has a characteristic odor of rotten eggs. Sources of hydrogen sulfide include geothermal power plants, petroleum refineries, sewers, and sewage treatment plants. Exposure to hydrogen sulfide can result in nuisance odors, as well as headaches and breathing difficulties at higher concentrations.

Visibility-Reducing Particles. Visibility-reducing particles are any particles in the air that obstruct the range of visibility. Effects of reduced visibility can include obscuring the viewshed of natural scenery, reducing airport safety, and discouraging tourism. Sources of visibility-reducing particles are the same as for $PM_{2.5}$ described above.

Reactive Organic Gases. Hydrocarbons are organic gases that are formed from hydrogen and carbon and sometimes other elements. Hydrocarbons that contribute to formation of O_3 are

referred to and regulated as ROG. Combustion engine exhaust, oil refineries, and fossil-fueled power plants are the sources of hydrocarbons. Other sources of hydrocarbons include evaporation from petroleum fuels, solvents, dry cleaning solutions, and paint.

The primary health effects of ROG result from the formation of O_3 and its related health effects. High levels of ROG in the atmosphere can interfere with oxygen intake by reducing the amount of available oxygen through displacement. Carcinogenic forms of hydrocarbons, such as benzene, are considered TACs. There are no separate health standards for ROG as a group.

Non-Criteria Air Pollutants

Toxic Air Contaminants

In addition to the criteria pollutants described above, TACs are also a category of environmental concern. TACs are airborne substances that are capable of causing adverse human health effects. Adverse health effects associated with exposure to TACs may include carcinogenic (i.e., cancer-causing) and noncarcinogenic effects. Noncarcinogenic effects typically affect one or more target organ systems and may be experienced on either short-term (acute) or long-term (chronic) exposure to a given TAC. TACs include both organic and inorganic chemical substances. Sources of TACs include industrial processes such as petroleum refining and chrome plating operations, commercial operations such as gasoline stations and dry cleaners, and motor vehicle exhaust. Cars and trucks release at least 40 different TACs, including diesel particulate matter (DPM).

DPM is part of a complex mixture that makes up diesel exhaust. Diesel exhaust is composed of two phases, gas and particle, both of which contribute to health risks. More than 90% of DPM is less than 1 micrometer in diameter (about 1/70th the diameter of a human hair), and thus is a subset of $PM_{2.5}$ (CARB 2016a). DPM is typically composed of carbon particles ("soot," also called black carbon) and numerous organic compounds, including over 40 known cancer-causing organic substances. Examples of these chemicals include polycyclic aromatic hydrocarbons, benzene, formaldehyde, acetaldehyde, acrolein, and 1,3-butadiene (CARB 2016a). The CARB classified "particulate emissions from diesel-fueled engines" (i.e., DPM; 17 CCR 93000) as a TAC in August 1998. DPM is emitted from a broad range of diesel engines: on-road diesel engines of trucks, buses, and cars and off-road diesel engines including locomotives, marine vessels, and heavy-duty construction equipment, among others. Approximately 70% of all airborne cancer risk in California is associated with DPM (CARB 2000). To reduce the cancer risk associated with DPM, CARB adopted a diesel risk reduction plan in 2000 (CARB 2000). Because it is part of $PM_{2.5}$, DPM also contributes to the same non-cancer health effects as $PM_{2.5}$ exposure. These effects include premature death; hospitalizations and emergency department visits for exacerbated chronic heart and lung disease, including asthma; increased respiratory symptoms; and decreased lung function in children. Several studies suggest that exposure to

DPM may also facilitate development of new allergies (CARB 2016a). Those most vulnerable to non-cancer health effects are children whose lungs are still developing and the elderly who often have chronic health problems.

Asbestos is also considered a TAC. Asbestos is a fibrous mineral, which is both naturally occurring in ultramafic rock (a rock type commonly found in California) and used as a processed component of building materials. Naturally-occurring asbestos (NOA) is often found in serpentine rock formations, which is present in several foothill areas of Placer County. Because asbestos has been proven to cause serious adverse health effects, including asbestosis and lung cancer, it is strictly regulated based on its natural widespread occurrence and its use as a building material. The project is located within a geologic area that has a lower probability for the presence of NOA (PCAPCD 2015a).

Odorous Emissions

Odors are generally regarded as an annoyance rather than a health hazard. Manifestations of a person's reaction to odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting and headache). The ability to detect odors varies considerably among the population and overall is quite subjective. People may have different reactions to the same odor. An odor that is offensive to one person may be perfectly acceptable to another (e.g., coffee roaster). An unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. Known as odor fatigue, a person can become desensitized to almost any odor and recognition only occurs with an alteration in the intensity. The occurrence and severity of odor impacts depend on the nature, frequency, and intensity of the source; wind speed and direction; and the sensitivity of receptors. Odor impacts should be considered for any proposed new odor sources located near existing receptors, as well as any new sensitive receptors located near existing odor sources. Generally, increasing the distance between the receptor and the odor source will mitigate odor impacts.

The nearest existing source of odors is the City of Lincoln Wastewater Treatment Plant and Reclamation Facility (Lincoln WWTP), which is located on Fiddyment Road about 1.8 miles southwest of the proposed project.

4.3.1.3 Existing Air Quality

The CARB regional air quality monitoring network provides information on ambient concentrations of criteria air pollutants. The closest monitoring station to the proposed project is the 1st Street station (about one mile east of the project) in Lincoln. PM_{10} and $PM_{2.5}$ data from the North Sunrise Boulevard station in Roseville (about 10 miles southeast of the project) have also been included. In addition, CO data has been included from the North Highlands station (about 12 miles southwest of the project), since CO data is not available

from Placer County stations. Table 4.3-1 presents a three-year summary of air pollutant (concentration) data collected at these monitoring stations for O_3, CO, PM_{10}, and $PM_{2.5}$. Table 4.3-1 includes a comparison of monitored air pollutant concentrations with state and national ambient air quality standards. While the data gathered at these monitoring stations may not necessarily reflect the unique meteorological environment of the project site nor the proximity of site-specific stationary and street sources, they do present the nearest available benchmark and provide the reader with a reference point to what the pollutants of greatest concern are in the region and the degree to which the area is out of attainment with specific air quality standards.

Air quality in the project vicinity is influenced by both local and distant emission sources. Air pollutant sources in the immediate plan area vicinity include emissions from vehicle traffic on Highway 65 and other nearby roadways. Other air pollutant sources in the region include area sources such as activities associated with agricultural activities, the Lincoln Municipal Airport, and the Lincoln WWTP. As noted above, air quality in western Placer County is also influenced by pollutants transported to the area from the Sacramento Metropolitan Area, the San Joaquin Valley Air Basin, and the San Francisco Bay Area.

Table 4.3-1
Local Ambient Air Quality Data

Monitoring Station	Unit	Averaging Time	Agency/ Method	Ambient Air Quality Standard	Measured Concentration by Year			Exceedances by Year		
					2014	*2015*	*2016*	*2014*	*2015*	*2016*
Ozone (O_3)										
Lincoln 1st Street Station	ppm	Maximum 1-hour concentration	State	0.09	0.107	0.098	0.102	1	2	3
	ppm	Maximum 8-hour concentration	State	0.070	0.086	0.082	0.084	4	5	12
			Federal	0.070	0.086	0.082	0.083	3	4	11
Carbon Monoxide (CO)										
North Highlands Blackfoot Way Station	ppm	Maximum 1-hour concentration	State	20	–	–	–	–	–	–
			Federal	35	1.8	2.1	2.3	0	0	0
	ppm	Maximum 8-hour concentration	State	9.0	–	–	–	–	–	–
			Federal	9	1.4	1.3	1.6	0	0	0
Coarse Particulate Matter (PM_{10})[a]										
Roseville N Sunrise Station	µg/m³	Maximum 24-hour concentration	State	50	31.8	59.1	30.7	0.0 (0)	ND (0)	ND (0)
			Federal	150	30.2	35.7	29.3	0.0 (0)	ND (1)	ND (0)
	µg/m³	Annual concentration	State	20	18.0	ND	ND	–	–	–

Table 4.3-1
Local Ambient Air Quality Data

Monitoring Station	Unit	Averaging Time	Agency/ Method	Ambient Air Quality Standard	Measured Concentration by Year			Exceedances by Year		
					2014	*2015*	*2016*	*2014*	*2015*	*2016*
Fine Particulate Matter ($PM_{2.5}$)[a]										
Roseville N Sunrise Station	µg/m³	Maximum 24-hour concentration	Federal	35	22.2	29.1	20.2	0.0 (0)	0.0 (0)	ND (0)
	µg/m³	Annual concentration	State	12	10.5	8.1	ND	–	–	–
			Federal	12.0	7.8	8.0	ND	–	–	–

Sources: CARB 2017, EPA 2017b.

Notes: — = not available; µg/m3 = micrograms per cubic meter; ND = insufficient data available to determine the value; ppm = parts per million Data taken from CARB iADAM (http://www.arb.ca.gov/adam) and EPA AirData (http://www.epa.gov/airdata/) represent the highest concentrations experienced over a given year.

Exceedances of federal and state standards are only shown for O_3 and particulate matter. Daily exceedances for particulate matter are estimated days because PM_{10} and $PM_{2.5}$ are not monitored daily. All other criteria pollutants did not exceed federal or state standards during the years shown. There is no federal standard for 1-hour ozone, annual PM_{10}, or 24-hour SO_2, nor is there a state 24-hour standard for $PM_{2.5}$.

Lincoln 1st Street Monitoring Station is located at 1445 1st St., Lincoln CA 95648.

Roseville N Sunrise Monitoring Station is located at 151 N Sunrise Ave, Roseville CA 95661.

North Highlands Blackfoot Way Monitoring Station is located at 7823 Blackfoot Way, North Highlands CA 95660

[a] Measurements of PM_{10} and $PM_{2.5}$ are usually collected every 6 days and every 1 to 3 days, respectively. Number of days exceeding the standards is a mathematical estimate of the number of days concentrations would have been greater than the level of the standard had each day been monitored. The numbers in parentheses are the measured number of samples that exceeded the standard.

4.3.1.4 Sensitive Receptors

Air quality varies as a direct function of the amount of pollutants emitted into the atmosphere, the size and topography of the air basin, and the prevailing meteorological conditions. Air quality problems arise when the rate of pollutant emissions exceeds the rate of dispersion. Reduced visibility, eye irritation, and adverse health impacts upon those persons termed "sensitive receptors" are the most serious hazards of existing air quality conditions in the area. Some land uses are considered more sensitive to changes in air quality than others, depending on the population groups and the activities involved. People most likely to be affected by air pollution, as identified by CARB, may include the elderly and the young, those with higher rates of respiratory disease such as asthma and chronic obstructive pulmonary disease. Land uses such as schools, children's day care centers, hospitals, and nursing and convalescent homes are considered to be more sensitive than the general public to poor air quality because the population groups associated with these uses have increased susceptibility to respiratory distress. Parks and playgrounds are considered moderately sensitive to poor air quality because persons engaged in strenuous work or exercise also have increased sensitivity to poor air quality; however, exposure times are generally far shorter in parks and playgrounds than in residential locations and schools, which typically reduce overall exposure to pollutants. Residential areas are considered more sensitive to air quality conditions compared to commercial and industrial areas because people generally spend longer periods of time at their residences, with associated greater exposure to

ambient air quality conditions.[3] Workers are not considered sensitive receptors because all employers must follow regulations set forth by the Occupation Safety and Health Administration (OSHA) to ensure the health and well-being of their employees.

The proposed project would be built on land that is currently undeveloped, which has been used primarily for dry crop farming and grazing land. The proposed project would be adjacent to existing residential land uses located to the north and east, along 1st Street, Douglas Drive, St. Lucia Way, and 3rd Street. Other nearby off-site sensitive land uses include rural residences along Nelson Lane (nearest about 250 feet west of the project) and the Creekside Oaks Elementary School (about 1,500 feet east of the project).

4.3.2 Relevant Plans, Policies, and Ordinances

Regulatory oversight for air quality in the proposed project area is maintained by the EPA at the federal level, CARB at the state level, and the PCAPCD at the regional level. Applicable laws, regulations, and standards of these three agencies are described as follows.

4.3.2.1 Federal

Criteria Air Pollutants

The federal Clean Air Act, passed in 1970 and last amended in 1990, forms the basis for the national air pollution control effort. The EPA is responsible for implementing most aspects of the Clean Air Act, including setting National Ambient Air Quality Standards (NAAQS) for major air pollutants; setting hazardous air pollutant (HAP) standards; approving state attainment plans; setting motor vehicle emission standards; issuing stationary source emission standards and permits; and establishing acid rain control measures, stratospheric O_3 protection measures, and enforcement provisions. Under the Clean Air Act, NAAQS are established for the following criteria pollutants: O_3, CO, NO_2, SO_2, PM_{10}, $PM_{2.5}$, and lead.

The NAAQS describe acceptable air quality conditions designed to protect the health and welfare of the citizens of the nation. The NAAQS (other than for O_3, NO_2, SO_2, PM_{10}, $PM_{2.5}$, and those based on annual averages or arithmetic mean) are not to be exceeded more than once per year. NAAQS for O_3, NO_2, SO_2, PM_{10}, and $PM_{2.5}$ are based on statistical calculations over 1- to 3-year periods, depending on the pollutant. Pursuant to the 1990 federal Clean Air Act Amendments, the EPA classifies air basins (or portions thereof) as "attainment" or "nonattainment" for each criteria air pollutant, based on whether or not the NAAQS had been achieved. "Unclassified" is defined by the EPA as any area that cannot be classified, on the basis

[3] The factors responsible for variation in exposure are also often similar to factors associated with greater susceptibility to air quality health effects. For example, poorer residents may be more likely to live in crowded substandard housing and be more likely to live near industrial or roadway sources of air pollution.

of available information, as meeting or not meeting the national primary or secondary ambient air quality standard for the pollutant. The designation of "unclassifiable/attainment" means that the area meets the standard or is expected to be meet the standard despite a lack of monitoring data. Areas that achieve the standards after a nonattainment designation are re-designated as maintenance areas and must have approved Maintenance Plans to ensure continued attainment of the standards.

The Clean Air Act requires the EPA to reassess the NAAQS at least every 5 years to determine whether adopted standards are adequate to protect public health based on current scientific evidence. States with areas that exceed the NAAQS must prepare a state implementation plan that demonstrates how those areas will attain the standards within mandated time frames.

Hazardous Air Pollutants

The 1977 federal Clean Air Act amendments required the EPA to identify National Emission Standards for Hazardous Air Pollutants (NESHAPs) to protect public health and welfare. HAPs include certain volatile organic chemicals, pesticides, herbicides, and radionuclides that present a tangible hazard, based on scientific studies of exposure to humans and other mammals. Under the 1990 federal Clean Air Act Amendments, which expanded the control program for HAPs, 189 substances and chemical families were identified as HAPs.

4.3.2.2 State

Criteria Air Pollutants

The federal Clean Air Act delegates the regulation of air pollution control and the enforcement of the NAAQS to the states. In California, the task of air quality management and regulation has been legislatively granted to CARB, with subsidiary responsibilities assigned to air quality management districts and air pollution control districts at the regional and county levels. CARB, which became part of the California Environmental Protection Agency in 1991, is responsible for ensuring implementation of the California Clean Air Act of 1988, responding to the federal Clean Air Act, and regulating emissions from motor vehicles and consumer products.

CARB has established California Ambient Air Quality Standards (CAAQS), which are generally more restrictive than the NAAQS. The CAAQS describe adverse conditions; that is, pollution levels must be below these standards before a basin can attain the standard. The CAAQS for O_3, CO, SO_2 (1-hour and 24-hour), NO_2, PM_{10}, and $PM_{2.5}$ and visibility-reducing particles are values that are not to be exceeded. All others are not to be equaled or exceeded. Table 4.3-2 presents current NAAQS and CAAQS.

Table 4.3-2
Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards[a]	National Standards[b]	
		Concentration[c]	*Primary*[c,d]	*Secondary*[c,e]
O_3	1 hour	0.09 ppm (180 µg/m³)	—	Same as Primary Standard[f]
	8 hours	0.070 ppm (137 µg/m³)	0.070 ppm (137 µg/m³)[f]	
NO_2[g]	1 hour	0.18 ppm (339 µg/m³)	0.100 ppm (188 µg/m³)	Same as Primary Standard
	Annual Arithmetic Mean	0.030 ppm (57 µg/m³)	0.053 ppm (100 µg/m³)	
CO	1 hour	20 ppm (23 mg/m³)	35 ppm (40 mg/m³)	None
	8 hours	9.0 ppm (10 mg/m³)	9 ppm (10 mg/m³)	
SO_2[h]	1 hour	0.25 ppm (655 µg/m³)	0.075 ppm (196 µg/m³)	—
	3 hours	—	—	0.5 ppm (1,300 µg/m³)
	24 hours	0.04 ppm (105 µg/m³)	0.14 ppm (for certain areas)[g]	—
	Annual	—	0.030 ppm (for certain areas)[g]	—
PM_{10}[i]	24 hours	50 µg/m³	150 µg/m³	Same as Primary Standard
	Annual Arithmetic Mean	20 µg/m³	—	
$PM_{2.5}$[i]	24 hours	—	35 µg/m³	Same as Primary Standard
	Annual Arithmetic Mean	12 µg/m³	12.0 µg/m³	15.0 µg/m³
Lead[j,k]	30-day Average	1.5 µg/m³	—	—
	Calendar Quarter	—	1.5 µg/m³ (for certain areas)[k]	Same as Primary Standard
	Rolling 3-Month Average	—	0.15 µg/m³	
Hydrogen sulfide	1 hour	0.03 ppm (42 µg/m³)	—	—
Vinyl chloride[j]	24 hours	0.01 ppm (26 µg/m³)	—	—
Sulfates	24- hours	25 µg/m³	—	—
Visibility reducing particles	8 hour (10:00 a.m. to 6:00 p.m. PST)	Insufficient amount to produce an extinction coefficient of 0.23 per kilometer due to the number of particles when the relative humidity is less than 70%	—	—

Source: CARB 2016b.

Notes: µg/m³ = micrograms per cubic meter; mg/m³= milligrams per cubic meter; ppm = parts per million by volume; O_3 = ozone; NO_2 = nitrogen dioxide; CO = carbon monoxide; SO_2 = sulfur dioxide; PM_{10} = particulate matter with an aerodynamic diameter less than or equal to 10 microns; $PM_{2.5}$ = particulate matter with an aerodynamic diameter less than or equal to 2.5 microns.

a California standards for O_3, CO, SO_2 (1-hour and 24-hour), NO_2, suspended particulate matter (PM_{10}, $PM_{2.5}$), and visibility-reducing particles are values that are not to be exceeded. All others are not to be equaled or exceeded. CAAQS are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

b National standards (other than O_3, NO_2, SO_2, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once per year. The O_3 standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over 3 years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when the expected

number of days per calendar year with a 24-hour average concentration above 150 µg/m^3 is equal to or less than 1. For $PM_{2.5}$, the 24-hour standard is attained when 98% of the daily concentrations, averaged over 3 years, are equal to or less than the standard.

[c] Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based on a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

[d] National Primary Standards: The levels of air quality necessary, with an adequate margin of safety, to protect the public health.

[e] National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

[f] On October 1, 2015, the national 8-hour O_3 primary and secondary standards were lowered from 0.075 to 0.070 ppm.

[g] To attain the national 1-hour standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 parts per billion (ppb). Note that the national 1-hour standard is in units of ppb. California standards are in units of ppm. To directly compare the national 1-hour standard to the California standards, the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.

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

[i] On December 14, 2012, the national annual $PM_{2.5}$ primary standard was lowered from 15 µg/m^3 to 12.0 µg/m^3. The existing national 24-hour $PM_{2.5}$ standards (primary and secondary) were retained at 35 µg/m^3, as was the annual secondary standard of 15 µg/m^3. The existing 24-hour PM_{10} standards (primary and secondary) of 150 µg/m^3 were also retained. The form of the annual primary and secondary standards is the annual mean averaged over 3 years.

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

[k] The national standard for lead was revised on October 15, 2008, to a rolling 3-month average. The 1978 lead standard (1.5 µg/m3 as a quarterly average) remains in effect until 1 year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

In 1988, California passed the California Clean Air Act (California Health and Safety Code Sections 39600 et seq.), which, like its federal counterpart, called for the designation of areas as "attainment" or "nonattainment", but based on CAAQS rather than the NAAQS. Table 4.3-3 shows the current attainment status of the proposed project area with respect to the NAAQS and CAAQS.

Table 4.3-3
Proposed Project Area Attainment Classification

Pollutant	Designation/Classification	
	Federal Standards	*State Standards*
Ozone (O_3) – 1 hour	No Federal Standard	**Nonattainment**
Ozone (O_3) – 8 hour	**Severe Nonattainment**	**Nonattainment**
Nitrogen Dioxide (NO_2)	Unclassifiable/Attainment	Attainment
Carbon Monoxide (CO)	Unclassifiable/Attainment	Attainment
Sulfur Dioxide (SO_2)	Not Designated [a]	Attainment
Coarse Particulate Matter (PM_{10})	Unclassifiable/Attainment	**Nonattainment**
Fine Particulate Matter ($PM_{2.5}$)	**Moderate Nonattainment**	Attainment
Lead (Pb)	Unclassifiable/Attainment	Attainment
Hydrogen Sulfide	No Federal Standard	Unclassified
Sulfates	No Federal Standard	Attainment
Visibility-Reducing Particles	No Federal Standard	Unclassified
Vinyl Chloride	No Federal Standard	No designation

Sources: EPA 2017c (federal); CARB 2016c (state).

Notes: Attainment = meets the standards; Attainment/Maintenance = achieve the standards after a nonattainment designation; Nonattainment = does not meet the standards; Unclassified or Unclassifiable = insufficient data to classify; Unclassifiable/Attainment = meets the standard or is expected to be meet the standard despite a lack of monitoring data.

[a] Federal designations for SO_2 are on hold by EPA; EPA expects to make the designations by December 2017.

Toxic Air Contaminants

The state Air Toxics Program was established in 1983 under Assembly Bill (AB) 1807 (Tanner). The California TAC list identifies more than 700 pollutants, of which carcinogenic and noncarcinogenic toxicity criteria have been established for a subset of these pollutants pursuant to the California Health and Safety Code. In accordance with AB 2728, the state list includes the (federal) HAPs. In 1987, the Legislature enacted the Air Toxics "Hot Spots" Information and Assessment Act of 1987 (AB 2588) to address public concern over the release of TACs into the atmosphere. AB 2588 law requires facilities emitting toxic substances to provide local air pollution control districts with information that will allow an assessment of the air toxics problem, identification of air toxics emissions sources, location of resulting hotspots, notification of the public exposed to significant risk, and development of effective strategies to reduce potential risks to the public over 5 years. TAC emissions from individual facilities are quantified and prioritized. "High-priority" facilities are required to perform a health risk assessment (HRA), and if specific thresholds are exceeded, the facility operator is required to communicate the results to the public in the form of notices and public meetings.

In 2000, CARB approved a comprehensive Diesel Risk Reduction Plan to reduce diesel emissions from both new and existing diesel-fueled vehicles and engines (CARB 2000). The regulation is anticipated to result in an 80% decrease in statewide diesel health risk in 2020 compared with the diesel risk in 2000. Additional regulations apply to new trucks and diesel fuel, including the On-Road Heavy Duty Diesel Vehicle (In-Use) Regulation, the On-Road Heavy Duty (New) Vehicle Program, the In-Use Off-Road Diesel Vehicle Regulation, and the New Off-Road Compression-Ignition (Diesel) Engines and Equipment program. These regulations and programs have timetables by which manufacturers must comply and existing operators must upgrade their diesel-powered equipment. There are several Airborne Toxic Control Measures (ATCMs) that reduce diesel emissions, including In-Use Off-Road Diesel-Fueled Fleets (13 CCR 2449 et seq.) and In-Use On-Road Diesel-Fueled Vehicles (13 CCR 2025).

Despite these reduction efforts, the CARB recommends that proximity to sources of DPM emissions be considered in the siting of new sensitive land uses. In April 2005, the CARB published *Air Quality and Land Use Handbook: a Community Health Perspective* (CARB 2005). This handbook is intended to give guidance to local governments in the siting of sensitive land uses near sources of air pollution. Recent studies have shown that public exposure to air pollution can be substantially elevated near freeways and certain other facilities such as ports, rail yards and distribution centers. Specifically, the document focuses on risks from emissions of DPM, a known carcinogen, and establishes recommended siting distances of sensitive receptors.

With respect to freeways, the recommendations of the report are: "Avoid siting new sensitive land uses within 500 feet of a freeway, urban roads with more than 100,000 vehicles per day or rural roads with 50,000 vehicles/day" (CARB 2005). The CARB notes that these recommendations are advisory and should not be interpreted as defined "buffer zones," and that local agencies must balance other considerations, including transportation needs, the benefits of urban infill, community economic development priorities, and other quality of life issues. With careful evaluation of exposure, health risks, and affirmative steps to reduce risk where necessary the CARB's position is that infill development, mixed use, higher density, transit-oriented development, and other concepts that benefit regional air quality can be compatible with protecting the health of individuals at the neighborhood level.

4.3.2.3 Local

Placer County Air Pollution Control District

The Placer County Air Pollution Control District (PCAPCD) is the regional agency responsible for air quality regulation within Placer County. The PCAPCD regulates air quality through its planning and review activities and has permit authority over most types of stationary emission sources and can require stationary sources to obtain permits, and can impose emission limits, set fuel or material specifications, or establish operational limits to reduce air emissions. The PCAPCD regulates new or expanding stationary sources of TACs.

Ozone Attainment Plan. For air quality planning purposes, western Placer County is classified as a severe non-attainment area for O_3. The "severe" classification triggers various plan submittal requirements and transportation performance standards. One such requirement is that the PCAPCD update the Clean Air Plan every three years to reflect progress in meeting the air quality standards and to incorporate new information regarding the feasibility of control measures and new emission inventory data. The PCAPCD's record of progress in implementing previous measures must also be reviewed. The *Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan (2013 SIP Revisions)* (PCAPCD et al. 2013), which addresses attainment of the federal 8-hour O_3 standard, as well as the *2015 Triennial Progress Report* (PCAPCD 2015b), which addresses attainment of the state O_3 standard, are the latest plans issued by the PCAPCD. The 2015 Triennial Progress Report, like the Ozone Attainment Plan, includes a current emission inventory and projected future inventories of ROG and NO_x emissions in Placer County. The future inventories reflect future growth rates of population, travel, employment, industrial/commercial activities, and energy use, as well as controls imposed through local, state, and federal emission reduction measures. The 2015 Triennial Progress Report, like the triennial progress reports prepared in previous years, discusses rules that the PCAPCD has adopted during the previous three years, incentive programs that have been

implemented, and other measures that would supplement those in the Ozone Attainment Plan to achieve the required 5% per year reduction required by the California Clean Air Act.

Rules and Regulations. Appendices B and D of the PCAPCD *CEQA Air Quality Handbook* (PCAPCD 2012) include an all-inclusive list of rules and regulations required for all projects. Each lead agency is responsible for compliance with the rules and regulations, whether requiring implementation through mitigation, conditions of approval, or standard notes on improvement plans, grading plans, or design review permits.

A general summary of the key PCAPCD rules and regulations is presented below.

Rule 202 – Visible Emissions: Rule 202 limits the amount of time during which air pollutant emissions of a certain shade of darkness or degree of opacity may be discharged, specifically to no more than 3 minutes in any 1 hour.

Rule 217 – Cutback and Emulsified Asphalt Paving Materials: Rule 217 limits the VOCs content of asphalt paving materials used in the district.

Rule 218 – Architectural Coatings: Rule 218 requires that architectural coatings supplied, sold, offered for sale, applied, solicited for application, or manufactured for use within the PCAPCD area meet specified maximum VOC content levels.

Rule 225 – Wood-Burning Appliances: Rule 225 establishes limits on the rate of particulate matter emissions from operation of a wood-burning appliance.

Rule 228 – Fugitive Dust: Rule 228 is intended to reduce the amount of particulate matter entrained in the ambient air, or discharged into the ambient air, as a result of anthropogenic (man-made) fugitive dust sources by requiring actions to prevent, reduce, or mitigate fugitive dust emissions. The provisions of Rule 228 apply to any activity or man-made condition capable of generating fugitive dust within Placer County.

Rule 246 – Natural Gas-Fired Water Heaters: Rule 246 is intended to limit the emission of NO_x from natural-gas-fired water heaters.

Regulation 3 – Open Burning: Regulation 3 includes Rules 301 through 306 related to smoke management for various land uses including agricultural uses, residential uses, and disposal sites. Regulation 3 is intended to reduce emissions of TACs from smoke from allowed outdoor burning.

Rule 501 – General Permit Requirements: Rule 501 provides an orderly procedure for the review of new sources of air pollution, and modification and operation of existing sources, through the issuance of permits.

Off-Site Air Quality Mitigation Fund. The PCAPCD Policy regarding Land Use Air Quality Mitigation Funds was adopted in April 17, 2001, amended on December 11, 2008, and is outlined in Appendix H of the *CEQA Air Quality Handbook* (PCAPCD 2012). The PCAPCD Air Quality Mitigation Fund guidelines include the following:

- The PCAPCD shall continue to consider permanent on-site air quality mitigation the preferred method of reducing a project's emissions including criteria pollutants and greenhouse gases as defined by AB 32. However, if sufficient measures cannot be implemented on-site to adequately reduce a project's emissions, then payment into the PCAPCD's Off-Site Air Quality Mitigation Fund is preferred. The PCAPCD shall continue to allow new development projects to contribute into the PCAPCD's Off-Site Air Quality Mitigation Fund as a means to offset air quality impacts from their development.
- The PCAPCD shall continue to calculate the amount of the payment for the criteria pollutants into the Off-Site Air Quality Mitigation Fund as follows:
    - Identifying the required emission reduction to the project's pollutants of concern (e.g., ozone precursor emissions over an ozone season of May-October) and applying a cost effectiveness factor to calculate the funds required to attain the reduction through an off-site emission reduction program. The cost effectiveness factor may be adjusted to reflect current emission reduction market conditions, as reported by the CARB Carl Moyer Program Guideline.
- An emission reduction project is eligible for mitigation funding only if the source of emissions reduction (public or private project) is not required by existing State or federal law to reduce its emissions to the levels proposed by the project.
- For criteria pollutants, the source of emissions reduction should be located within Placer County and the source operates primarily within the non-attainment area classified by the NAAQS.
- For the criteria pollutants to be reduced that are of localized concern (particulate matter and CO), it is preferred that the location of emissions reduction be as close as possible to the project that is to be mitigated.
- The type of emissions to be reduced (e.g., criteria pollutants) are of the same type as those emissions for which the Air Quality Mitigation Fee was paid.
- Leveraging of the mitigation funds to reduce the direct contribution of mitigation funds to achieve emission reductions is preferred.

- Examples of the types of emissions reduction projects that may be qualifying but not limited to:

  a. Provide monetary incentives to homeowners to replace high polluting non-EPA certified woodstoves with new EPA certified low emission wood, pellet or gas burning appliances.

  b. Purchase wood chippers for the California Department of Forestry and Fire Protection and or local fire departments to be used in a residential chipper program.

  c. Provide monetary incentives to local transit operators, public and private owners of heavy duty diesel on-road trucks and off-road equipment to replace older high emission diesel engines with new, low emission diesel or compressed/liquefied natural gas engines.

  d. Provide funding for regional air quality improvement programs such as the "Mow Down" program implemented by the Sacramento Metropolitan Air Quality Management District.

  e. Use as matching funds to obtain "Carl Moyer" funding for public and private air quality improvement projects.

  f. Provide monetary incentives to the agricultural industry to replace high polluting diesel powered water pumps with new cleaner burning diesel or natural gas powered agriculture pumps.

  g. Alternative project designs or locations that conserve energy and water, projects that reduce vehicle miles traveled (VMT) by fossil-fueled vehicles, project that contribute to established regional or programmatic mitigation strategies, and projects that sequester carbon to offset the emissions generating from the land use development project.

TAC Source Permitting. The PCAPCD is responsible for the control of TACs generated by stationary sources within the County. As part of the permitting process for new stationary sources of emissions, the PCAPCD reviews the permit application and determines whether the equipment has the potential to generate levels of TACs that would expose the local population to a maximum individual cancer risk of 10 in one million. If so, a HRA must to be prepared to evaluate the potential cancer risk. If a potential maximum individual cancer risk of more than 10 in one million is identified, the equipment must incorporate the best available control technology (BACT) and/or limit its operations to ensure that this threshold is not exceeded. This would only apply to the proposed project if TAC-producing stationary equipment were to be used at land uses to be developed.

City of Lincoln General Plan

The Health and Safety Element of the *City of Lincoln 2050 General Plan* provides goals and policies regarding air quality, including the following:

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-3.8 Air Quality Analysis. 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.

Policy HS-3.9 Dust Suppression Measures. 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.

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-3.11 Woodburning. 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.

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.

4.3.3 Thresholds of Significance

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

1. Conflict with or obstruct implementation of the applicable air quality plan.
2. Violate any air quality standard or contribute substantially to an existing or projected air quality violation.
3. Result in a cumulatively considerable new increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative threshold emissions which exceed quantitative thresholds for ozone precursors).
4. Expose sensitive receptors to substantial pollutant concentrations.
5. Create objectionable odors affecting a substantial number of people.

4.3.3.1 Criteria Air Pollutants

Various development projects have the potential to generate air pollutants that would result in adverse environmental impacts. In order to evaluate air pollutant emissions from development projects, the PCAPCD has established significance thresholds for emissions of ROG, NO_x, and PM_{10}. The PCAPCD *CEQA Air Quality Handbook* establishes thresholds of significance for criteria pollutants and the review principles that serve as guidelines when the PCAPCD reviews and comments on environmental documents prepared by lead agencies. The PCAPCD's thresholds of significance are presented in Table 4.3-4, below. In developing these thresholds, the PCAPCD considered both the health-based air quality standards, the attainment strategies

developed in conjunction with the CARB and the EPA, and the historical CEQA project review data in Placer County.

Table 4.3-4
PCAPCD Criteria Air Pollutant Thresholds

Pollutant	Construction Phase	Operational Phase Project-Level	Operational Phase Cumulative-Level
	pounds per day		
ROG	82	82	10
NO_x	82	82	10
PM_{10}	82	82	NA

Source: PCAPCD 2012.
Notes: ROG = reactive organic gases; NA = not applicable; NOx = nitrogen oxides; PM10 = particulate matter with an aerodynamic diameter less than or equal to 10 microns.

4.3.3.2 Toxic Air Contaminants

The operation of any project with the potential to expose existing or future sensitive receptors to substantial levels of TACs (such as DPM) would be deemed to have a potentially significant impact. More specifically, the thresholds of significance applied to assess project-level and cumulative health impacts, respectively, are:

- Exposure of persons by siting a new source or a new sensitive receptor to substantial levels of TAC during either construction or operation resulting in (a) a cancer risk level greater than 10 in one million and (b) a noncancerous risk (chronic or acute) hazard index (HI) greater than 1.0.
- Exposure of persons, by siting a new source or a new sensitive receptor, to substantial levels of TAC during either construction or operation resulting in (a) a cancer risk level greater than 100 in a million and (b) a noncancer risk (chronic or acute) HI greater than 10.0.

For projects that are considered new sources of TAC (such as stationary sources, industrial sources, or roadway projects), it is generally appropriate to use both the project-level and cumulative-level thresholds because the project-level threshold identifies project's individual contribution to risk, while the cumulative threshold assesses project's cumulative contribution to risk. However, for projects that consist of new receptors (such as residential development), it is generally appropriate to use only the cumulative-level threshold because the project itself is not a source of TAC and, thus, the individual project-level threshold is not relevant. The cumulative risk threshold accounts for potential sources of TAC in proximity to the new receptors on the project site. Because the proposed project involves new receptors, this analysis is focused on the cumulative impact of nearby sources of TAC (i.e., Highway 65 Bypass).

4.3.3.3 Odors

Odor impacts are addressed in a qualitative manner based on screening distances and odor complaints, as recommend in PCAPCD guidance. This includes a discussion of whether a project would result in excessive nuisance odors, or if proposed sensitive land uses would be exposed to substantial odors.

4.3.4 Impacts Analysis

4.3.4.1 Methods of Analysis

Project-related air quality impacts fall into two categories: short-term/temporary impacts due to construction and long-term impacts due to project operation. First, during project construction, the proposed project would result in an increase in emissions primarily due to off-road equipment, on-road vehicles, architectural coating, asphalt off-gassing, and fugitive dust from earth moving activities. Under operations (long-term), the proposed project would result in an increase in emissions due to motor vehicle trips due to residents, employees, and customers. Other sources include area sources such as landscaping, architectural coatings, and use of consumer products, as well as emissions generated by natural gas usage in space heating, water heating, and stoves.

The proposed project's short-term construction-related and long-term operational emissions were estimated using the California Emissions Estimator Model (CalEEMod), Version 2016.3.1, a statewide model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify air quality emissions from land use projects. The model applies inherent default values for various land uses, including trip generation rates based on the Institute of Transportation Engineers Trip Generation Manual, vehicle mix, trip length, average speed, etc. However, where project-specific data was available, such data were input into the model. All project modeling results are included in Appendix B.

A HRA was prepared by RCH Group (RCH Group 2015) to analyze potential health risk at proposed residences from on-road vehicle traffic on Highway 65 and is based on the Office of Environmental Health Hazard Assessment (OEHHA) *Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments* (OEHHA Guidance Manual) (OEHHA 2015) and the PCAQMD *CEQA Air Quality Handbook* (PCAPCD 2012). The HRA was completed within the following four steps: hazards identification, exposure assessment, toxicity assessment, and risk characterization. These steps cover the estimation of air emissions, the estimation of air concentrations resulting from a dispersion analysis, the incorporation of the toxicity of the pollutants emitted, and the characterization of the risk based on exposure parameters such as breathing rate, age adjustment factors, and exposure duration; each depending on age and receptor type. Several models were used to estimate the proposed project's potential to expose sensitive receptors to substantial levels of TACs. The on-road vehicle emission factors

model (EMFAC2014) reflects CARB's current understanding of how vehicles travel and how much air pollutants they emit. EMFAC2014 was used to estimate on-road emissions from motor vehicles on the portion of Highway 65 near the proposed project and to show how California motor vehicle emissions are projected to change in the future. Additionally, the CalTrans Performance Measurement System (PeMS) was used to obtain traffic volumes for the portion of Highway 65 Bypass within Placer County. Finally, the American Meteorological Society/USEPA Regulatory Model (AERMOD) is an atmospheric dispersion model that was used to yield 1-hour maximum and annual average concentrations at a given receptor.

4.3.4.2 Analysis

Impact 4.3-1. The project would not conflict with or obstruct implementation of the applicable air quality plan. (Less than Significant)

The proposed project site is under the jurisdiction of the PCAPCD within the SVAB. The SVAB is designated nonattainment for both federal and State ozone standards. Accordingly, the PCAPCD, along with other local air districts in the SVAB, is required to comply with and implement the SIP to demonstrate when and how the region can attain the federal O_3 standards. As such, the PCAPCD, along with the other air districts in the region, prepared the Sacramento *Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan (2013 SIP Revisions)*. The Plan addresses attainment of the federal 8-hour O_3 standard, while the 2015 Triennial Report and Air Quality Plan Revision address attainment of the California 1-hour and 8-hour O_3 standards. These are the latest plans adopted by the PCAPCD in coordination with the air quality management districts and air pollution control districts of El Dorado, Sacramento, Solano, Sutter, and Yolo counties, and they incorporate land use assumptions and travel demand modeling provided by Sacramento Area Council of Governments (SACOG). The purpose of a consistency finding is to determine if a project is inconsistent with the assumptions and objectives of the regional air quality plans, and thus if it would interfere with the region's ability to comply with federal and state air quality standards. In general, projects are considered consistent with, and would not conflict with or obstruct implementation of the air quality plan if the growth in socioeconomic factors is consistent with the underlying regional plans used to develop the air quality management plan.

Demographic growth forecasts for various socioeconomic categories (e.g., population, housing, employment by industry) were developed by SACOG for its Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP/SCS) (SACOG 2016) based on general plans for cities and counties in the SVAB. The air quality management plans rely on the land use and population projections provided in the MTP/SCS, which is generally consistent with the local plans; therefore, the air quality management plans are generally consistent with local government plans.

The proposed project is designated as a Developing Community in the 2016 MTP/SCS. In the MTP/SCS, a Developing Community is a large greenfield area where the MTP/SCS has some amount of growth forecasted by 2036. In developing land use forecasts for Lincoln, SACOG grouped SUD-B and plan area Village 5, which is located to the west of the proposed project. 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. This is consistent with the proposed project, because the proposed project (419 single-family low density detached dwelling units, 971,000 sf commercial, and a 100-room hotel) would not generate substantial population and employment that was not accounted for in the City's General Plan or SACOG's MTP/SCS and impacts relating to the proposed project's potential to conflict with or obstruct implementation of the applicable air quality management plan would be **less-than-significant.**

Impact 4.3-2. The project operational emissions would exceed air quality standards. (Significant)

Construction and operation of the proposed project would result in the emissions of criteria air pollutants that may cause exceedances of federal and state ambient air quality standards or contribute to existing nonattainment of ambient air quality standards. The following discussion identifies potential short- and long-term impacts that would result from implementation of the proposed project.

Construction

Emissions from construction activities were estimated using CalEEMod. Specific construction schedule sequencing and subphases for the proposed project have not yet been determined; therefore, a conceptual construction schedule was developed for the purpose of air quality modeling as shown in Table 4.3-5.

Table 4.3-5
Construction Schedule

Phase Type	Start Date	End Date	Number of Days/Week	Total Days
Phase 1C				
Site Preparation	2018/1/1	2018/1/26	5	20
Grading	2018/1/27	2018/3/30	5	45
Building Construction	2018/3/31	2019/10/25	5	410
Paving	2019/9/25	2019/11/12	5	35
Architectural Coating	2019/11/13	2019/12/31	5	35
Phase 1A and 1B				
Site Preparation	2018/7/1	2018/8/24	5	40
Grading	2018/8/25	2018/11/30	5	70
Building Construction	2018/1/12	2021/2/12	5	575

Table 4.3-5
Construction Schedule

Phase Type	Start Date	End Date	Number of Days/Week	Total Days
Paving	2021/1/12	2021/4/5	5	60
Architectural Coating	2021/4/6	2021/6/28	5	60
Phase 2B				
Site Preparation	2021/7/1	2021/7/28	5	20
Grading	2021/7/29	2021/9/29	5	45
Building Construction	2021/9/30	2023/4/26	5	410
Paving	2023/3/26	2023/5/12	5	35
Architectural Coating	2023/5/13	2023/6/30	5	35
Phase 2A				
Site Preparation	2023/1/1	2023/1/27	5	20
Grading	2023/1/28	2023/3/24	5	40
Building Construction	2023/3/25	2024/5/3	5	290
Paving	2024/4/3	2024/5/14	5	30
Architectural Coating	2024/5/15	2024/6/25	5	30
Phase 2C				
Site Preparation	2024/1/1	2024/1/12	5	10
Grading	2024/1/13	2024/2/23	5	30
Building Construction	2024/2/24	2024/11/29	5	200
Paving	2024/10/29	2024/11/25	5	20
Architectural Coating	2024/11/26	2024/12/23	5	20

Notes: See Appendix B for details.

Equipment fleet is based on CalEEMod default assumptions for specific pieces of equipment to be utilized during each construction subphase, except for the inclusion of trenchers during the site preparation and grading phases, which would account for utility work. For the purposes of air quality modeling, it was generally assumed that heavy construction equipment would be operating at the site for approximately 8 hours per day, 5 days per week (22 days per month), during project construction. Default construction worker, vendor trips, haul truck trips, and trip lengths as provided in CalEEMod were utilized. It was assumed all soil during site preparation activities would be balanced on-site and no soil import or export would be required. Specific CalEEMod assumptions for each model scenario, including quantity of equipment, are provided in Appendix B. These assumptions are summarized Table 4.3-6.

Table 4.3-6
Construction Scenario Assumptions

Construction Phase	Average Daily Worker One-Way Trips	Average Daily Vendor Truck One-Way Trips	Equipment	Quantity	Usage Hours
Phase 1C					
Site Preparation	20	0	Rubber Tired Dozers	3	8
			Tractors/Loaders/Backhoes	4	8
			Trenchers	1	8
Grading	23	0	Excavators	2	8
			Graders	1	8
			Rubber Tired Dozers	1	8
			Scrapers	2	8
			Tractors/Loaders/Backhoes	2	8
			Trenchers	1	8
Building Construction	657	270	Cranes	1	7
			Forklifts	3	8
			Generator Sets	1	8
			Tractors/Loaders/Backhoes	3	7
			Welders	1	8
Paving	15	0	Pavers	2	8
			Paving Equipment	2	8
			Rollers	2	8
Architectural Coating	131	0	Air Compressors	1	6
Phase 1A and 1B					
Site Preparation	20	0	Rubber Tired Dozers	3	8
			Tractors/Loaders/Backhoes	4	8
			Trenchers	1	8
Grading	23	0	Excavators	2	8
			Graders	1	8
			Rubber Tired Dozers	1	8
			Scrapers	2	8
			Tractors/Loaders/Backhoes	2	8
			Trenchers	1	8
Building Construction	501	185	Cranes	1	7
			Forklifts	3	8
			Generator Sets	1	8
			Tractors/Loaders/Backhoes	3	7
			Welders	1	8
Paving	15	0	Pavers	2	8
			Paving Equipment	2	8
			Rollers	2	8
Architectural Coating	100	0	Air Compressors	1	6

Table 4.3-6
Construction Scenario Assumptions

Construction Phase	Average Daily Worker One-Way Trips	Average Daily Vendor Truck One-Way Trips	Equipment	Quantity	Usage Hours
Phase 2B					
Site Preparation	20	0	Rubber Tired Dozers	3	8
			Tractors/Loaders/Backhoes	4	8
			Trenchers	1	8
Grading	23	0	Excavators	2	8
			Graders	1	8
			Rubber Tired Dozers	1	8
			Scrapers	2	8
			Tractors/Loaders/Backhoes	2	8
			Trenchers	1	8
Building Construction	504	210	Cranes	1	7
			Forklifts	3	8
			Generator Sets	1	8
			Tractors/Loaders/Backhoes	3	7
			Welders	1	8
Paving	15	0	Pavers	2	8
			Paving Equipment	2	8
			Rollers	2	8
Architectural Coating	101	0	Air Compressors	1	6
Phase 2A					
Site Preparation	20	0	Rubber Tired Dozers	3	8
			Tractors/Loaders/Backhoes	4	8
			Trenchers	1	8
Grading	23	0	Excavators	2	8
			Graders	1	8
			Rubber Tired Dozers	1	8
			Scrapers	2	8
			Tractors/Loaders/Backhoes	2	8
			Trenchers	1	8
Building Construction	131	48	Cranes	1	7
			Forklifts	3	8
			Generator Sets	1	8
			Tractors/Loaders/Backhoes	3	7
			Welders	1	8
Paving	15	0	Pavers	2	8
			Paving Equipment	2	8
			Rollers	2	8
Architectural Coating	26	0	Air Compressors	1	6

Table 4.3-6
Construction Scenario Assumptions

Construction Phase	Average Daily Worker One-Way Trips	Average Daily Vendor Truck One-Way Trips	Equipment	Quantity	Usage Hours
Phase 2C					
Site Preparation	20	0	Rubber Tired Dozers	3	8
			Tractors/Loaders/Backhoes	4	8
			Trenchers	1	8
Grading	23	0	Excavators	2	8
			Graders	1	8
			Rubber Tired Dozers	1	8
			Scrapers	2	8
			Tractors/Loaders/Backhoes	2	8
			Trenchers	1	8
Building Construction	214	84	Cranes	1	7
			Forklifts	3	8
			Generator Sets	1	8
			Tractors/Loaders/Backhoes	3	7
			Welders	1	8
Paving	15	0	Pavers	2	8
			Paving Equipment	2	8
			Rollers	2	8
Architectural Coating	43	0	Air Compressors	1	6

Notes: See Appendix B for details.

Construction of the proposed project would generate construction-related air pollutant emissions from entrained dust, equipment and vehicle exhaust emissions, asphalt pavement, and architectural coatings. Exhaust from internal combustion engines used by construction equipment and vendor trucks (delivery trucks) and worker vehicles would result in emissions of ROG, NO_x, and PM_{10}. Construction of the proposed project would also generate CO, SO_x and $PM_{2.5}$ emissions; however, only the criteria air pollutants that the PCAPCD have adopted thresholds for are presented in Table 4.3-4, though all criteria air pollutant emissions are included in Appendix B. Entrained dust results from the exposure of earth surfaces to wind from the direct disturbance and movement of soil, resulting in PM_{10} and $PM_{2.5}$ emissions. To account for compliance with PCAPCD Rule 228 (fugitive dust), it was assumed that the active sites would be watered at least twice daily, or as necessary depending on weather conditions and vehicle speeds on unpaved roads will be limited to 15 miles per hour. The application of architectural coatings, such as exterior/interior paint and other finishes, would also produce VOC (ROG) emissions. The proposed project would comply with the requirements of PCAPCD Rule 218 (Architectural Coatings), which sets a cap for the VOC content in paint of 100 grams of VOC per liter of coating for non-flat coatings.

Predicted construction emissions for the worst-case day for each of the construction years are presented in Table 4.3-7 and are compared to the PCAPCD significance thresholds.

Table 4.3-7
Maximum Daily Construction Criteria Air Pollutant Emissions (Unmitigated)

Year	ROG	NO_x	PM_{10}
	pounds per day		
2018	*13.93*	*125.58*	*18.98*
2019	*153.59*	*118.57*	*21.60*
2020	*5.48*	*42.21*	*8.78*
2021	*122.97*	*51.54*	*9.44*
2022	*4.67*	*38.11*	*8.61*
2023	*100.35*	*62.18*	*11.86*
2024	*78.96*	*48.13*	*7.14*
Maximum Daily	**153.59**	**118.57**	**21.60**
PCAPCD threshold	*82*	*82*	*82*
Threshold exceeded?	**Yes**	**Yes**	No

Notes: ROG = reactive organic gas; NO_x = oxides of nitrogen; PM_{10} = coarse particulate matter; PCAPCD = Placer County Air Pollution Control District. See Appendix B for complete results.
The values shown are the maximum summer or winter daily emissions results from CalEEMod.
These estimates reflect implementation of PCAPCD Rule 228, which assumes watering of the site two times per day and vehicle speeds of 15 miles per hour on unpaved roads, and Rule 218 that limits the VOC content of architectural coatings to 100 g/L.
Emissions presented in the above table are provided in the "mitigated" CalEEMod output because the estimates include emission reductions associated with required compliance with regulations, but are not actual mitigation measures.

As shown in Table 4.3-7, daily construction emissions would not exceed the threshold for PM_{10}. daily unmitigated construction emissions would exceed the PCAPCD thresholds for ROG and NO_x. Impacts for these pollutants would be **potentially significant**. As such, mitigation is required, as presented in Section 4.3.5.

Operations

Operation of the proposed project would produce ROG, NO_x, CO, SO_x, PM_{10}, and $PM_{2.5}$ emissions from area sources, including natural gas combustion, use of consumer products, and motor vehicle trips to project land uses. The proposed project would primarily impact air quality through vehicular traffic generated by residents, employees, and visitors. The estimation of proposed operational emissions was based on proposed land use defaults and total area (i.e., square footage) of buildings and residential dwelling units that would be in operation by 2025.

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. 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 emissions from the project site sources, which include gasoline-powered landscape maintenance equipment, consumer products, and architectural coatings for building maintenance. Default values provided by CalEEMod were used for the VOC content of architectural coatings for maintenance in accordance with PCAPCD Rule 218 (Architectural Coatings), which sets a cap for the VOC content in paint of 100 grams of VOC per liter of coating for non-flat coatings.

Table 4.3-8 presents the maximum daily emissions associated with the operation of the proposed project after all phases of construction have been completed. The values shown are the maximum

summer or winter daily emissions results from CalEEMod. Complete details of the emissions calculations are provided in Appendix B.

Table 4.3-8
Maximum Daily Operational Criteria Air Pollutant Emissions

Year	ROG	NO_x	PM_{10}
	pounds per day		
Area Sources	53.04	5.44	0.60
Energy	0.83	7.38	0.57
Motor Vehicles	50.61	283.46	135.48
Total	**104.48**	**296.28**	**136.65**
PCAPCD threshold	*82*	*82*	*82*
Threshold exceeded?	**Yes**	**Yes**	**Yes**

Notes: ROG = reactive organic gas; NO_x = oxides of nitrogen; PM_{10} = coarse particulate matter; PCAPCD = Placer County Air Pollution Control District.
See Appendix B for complete results.
The values shown are the maximum summer or winter daily emissions results from CalEEMod.
These estimates reflect implementation of Rule 218 which limits the VOC content of architectural coatings to 100 g/L.

As shown in Table 4.3-8, daily unmitigated operational emissions would exceed the PCAPCD thresholds for ROG, NO_x, and PM_{10} at full buildout. The greatest sources of emissions are from mobile sources. Because the proposed project would exceed the PCAPCD thresholds during operation, the proposed project would result in a **potentially significant** impact. As such, mitigation is required, as presented in Section 4.3.5.

Impact 4.3-3. The project would not expose sensitive receptors to substantial pollutant concentrations. (Less than Significant)

Health Impacts of Toxic Air Contaminants

Construction

Construction of the proposed project would involve the use of diesel-fueled vehicles used during site preparation, grading, building construction, paving, and application of architectural coatings. DPM is the primary TAC of concern during these construction activities. Notably, on-road diesel trucks traveling to and from the proposed project would be less of a concern because they would not stay on the site for long durations. The following measures are required by state law to reduce diesel particulate emissions:

- Fleet owners of mobile construction equipment are subject to the CARB Regulation for In-use Off-road Diesel Vehicles (Title 13 California Code of Regulations, Chapter 9, Section 2449), the purpose of which is to reduce DPM and criteria pollutant emissions from in-use (existing) off-road diesel-fueled vehicles.

- All commercial diesel vehicles are subject to Title 13, Section 2485 of the California Code of Regulations, limiting engine idling time. Idling of heavy-duty diesel construction equipment and trucks during loading and unloading shall be limited to five minutes; electric auxiliary power units should be used whenever possible.

According to the OEHHA, health risk assessments, which determine the exposure of sensitive receptors to toxic emissions, should be based on a 30-year exposure period for the maximally exposed individual resident; however, such assessments should be limited to the period/duration of activities associated with the project. Since the proposed project involves phased construction activities in several areas across the site, the project would not require the extensive use of heavy-duty construction equipment or diesel trucks in any one location over the duration of development, which would limit the exposure of any proximate individual sensitive receptor to TACs. Due to the relatively short period of exposure at any individual sensitive receptor and minimal particulate emissions generated on-site, TACs generated during construction would not be expected to result in concentrations causing significant health risks.

Operations

Studies have demonstrated that DPM from diesel-fueled engines is a human carcinogen and that chronic (long-term) inhalation exposure to DPM poses a chronic health risk. The proposed project would locate sensitive receptors near Highway 65 Bypass, a source of DPM due to truck activities. Impacts to these residences were analyzed in the HRA prepared for the proposed project (RCH Group 2015). The complete HRA is included as Appendix C and results summarized below.

Health effects from carcinogenic air toxics are usually described in terms of individual cancer risk. Individual cancer risk is the likelihood that a person exposed to concentrations of TAC over a 70-year lifetime will contract cancer, based on the use of standard risk-assessment methodology. The maximally exposed individual (MEI) represents the worst–case risk estimate, based on a theoretical person continuously exposed for a lifetime at the point of highest compound concentration in the air. This is a highly conservative assumption, since most people do not remain at home all day and on average residents change residences every 11 to 12 years. In addition, this assumption assumes that residents are experiencing outdoor concentrations for the entire exposure period.

The HRA analyzes the potential incremental cancer risks to residences of the proposed project, using emission rates from CARB's EMFAC2014 emission model. Emission factors were input into the AERMOD (Version 15181) atmospheric dispersion model to calculate ambient air concentrations at receptors in the proposed project vicinity. This assessment is intended to provide a worst–case estimate of the increased exposure by employing a standard emission

estimation program, an accepted pollutant dispersion model, approved toxicity factors, and conservative exposure parameters.

In accordance with the OEHHA Guidance Manual, the HRA was prepared by applying the highest estimated concentrations of TAC at the receptors analyzed to the established cancer potency factors and acceptable reference concentrations for non-cancer health effects. The maximum DPM concentrations occurred at a residential receptor (also known as the MEI) adjacent to Highway 65 Bypass (within 100 feet of the nearest traffic lanes) within the southeastern portion of the residential component of the Specific Plan Area (and near the Auburn Ravine). Increased cancer risks were calculated using the modeled DPM concentrations and OEHHA-recommended methodologies for both a child exposure (3rd trimester through 2 years of age) and adult exposure. The cancer risk calculations were based on applying the OEHHA-recommended age sensitivity factors and breathing rates, as well as fraction of time at home and an exposure duration of 30 years, to the DPM concentration exposures. Additionally, OEHHA recommends using the 9- and 70-year exposure duration to represent the potential impacts over the range of residency periods. Age-sensitivity factors reflect the greater sensitivity of infants and small children to cancer causing air pollutants.[4] Results of the HRA are presented in Table 4.3-9.

Table 4.3-9
Health Risk Assessment Results

Impact Parameter	Units	Project Impact	Cumulative Threshold	Level of Significance
Maximum Individual Cancer Risk (70-Year Exposure)	Per Million	88.5	100	Less than Significant
Chronic Hazard Index	Index Value	0.05	10	Less than Significant
Acute Hazard Index	Index Value	0.14	10	Less than Significant

Source: RCH Group 2015. See Appendix C for complete results.

Cancer risk is the lifetime probability of developing cancer from exposure to carcinogenic substances. Incremental cancer risks were calculated by applying established toxicity factors and exposure parameters to modeled concentrations. As shown in Table 4.3-9, the estimated cancer risk for a 70-year exposure from truck activities along Highway 65 Bypass to the MEI would be would be 88.5 per million. Thus, the cancer risk due to truck activity along Highway 65 Bypass is less than the cumulative threshold of 100 per million.

4 These conservative methodologies overestimate both non-carcinogenic and carcinogenic health risk, possibly by an order of magnitude or more. Therefore, for carcinogenic risks, the actual probabilities of cancer formation in the populations of concern due to exposure to carcinogenic pollutants are likely to be lower than the risks derived using the HRA methodology. The extrapolation of toxicity data in animals to humans, the estimation of concentration prediction methods within dispersion models, and the variability in lifestyles, fitness and other confounding factors of the human population also contribute to the overestimation of health impacts. Therefore, the results of the HRA are highly overstated.

Both acute (short-term) and chronic (long-term) adverse health impacts unrelated to cancer are measured against a HI, which is defined as the ratio of the predicted incremental DPM exposure concentration from the proposed project to a published reference exposure level (REL) that could cause adverse health effects. As shown in Table 4.3-9, the chronic HI of 0.05 would be below the cumulative threshold of 10. Notably, there is no acute REL for DPM. However, diesel exhaust does contain acrolein and other compounds, which do have an acute REL. As depicted in Table 4.3-9, the acute HI of 0.14 would be below the cumulative threshold of 10.

Based on the above considerations, TAC exposure to the MEI associated with vehicular traffic on the Highway 65 Bypass would be **less-than-significant**.

Carbon Monoxide Hotspot

Mobile source impacts occur basically on two scales of motion. Regionally, project-related travel will add to regional trip generation and increase the vehicle miles traveled (VMT) within the local airshed and the SVAB. Locally, project traffic will be added to the City of Lincoln roadway system adjacent to the proposed project and within the proposed project itself. If such traffic occurs during periods of poor atmospheric ventilation, is composed of a large number of vehicles "cold-started" and operating at pollution-inefficient speeds, and is operating on roadways already crowded with non-project traffic, there is a potential for the formation of microscale CO hotspots in the area immediately around points of congested traffic. Because of continued improvement in vehicular emissions at a rate faster than the rate of vehicle growth and/or congestion, the potential for CO hotspots in the SVAB is steadily decreasing.

CO transport is extremely limited and disperses rapidly with distance from the source. Under certain extreme meteorological conditions, however, CO concentrations near a congested roadway or intersection may reach unhealthy levels, affecting sensitive receptors such as residents, school children, hospital patients, and older adults. Typically, high CO concentrations are associated with roadways or intersections operating at an unacceptable level of service (LOS). Projects contributing to adverse traffic impacts may result in the formation of such CO hotspots.

To verify that the project would not cause or contribute to a violation of the CO standards, a screening evaluation of the potential for CO hotspots was conducted. The California Department of Transportation (Caltrans) and the U.C. Davis Institute of Transportation Studies *Transportation Project-Level Carbon Monoxide Protocol* (CO Protocol) (Caltrans 1997), and the PCAPCD *CEQA Air Quality Handbook* (PCAPCD 2012) were followed. PCAPCD outlines the following criteria in order to determine whether a CO hotspots analysis is typically warranted (1) the traffic study for the project indicates that the peak-hour LOS on one or more streets or at one or more intersections (both signalized and non-signalized) in the project vicinity will be degraded from an acceptable LOS (e.g., A, B, C, or D) to an unacceptable LOS (e.g., E or F); and (2) the traffic study indicates that the project would

substantially worsen an already existing unacceptable peak-hour LOS on one or more streets or at one or more intersections in the project vicinity. "Substantially worsen" includes situations where delay would increase by 10 seconds or more with project-generated traffic included.

The proposed project's Traffic Impact Analysis (TIA) evaluated the potential transportation and circulation impacts resulting from the implementation of the proposed project. The TIA evaluated seventeen intersections for four different scenarios which included existing conditions, existing plus buildout of project, cumulative without project, and cumulative plus buildout of project. According to the CO Protocol, there is a cap on the number of intersections that need to be analyzed for any one project. For a single project with multiple intersections, only the three intersections representing the worst LOS ratings of the project, and to the extent they are different intersections, the three intersections representing the highest traffic volumes, need be analyzed. For each intersection failing a screening test as described in this protocol, an additional intersection should be analyzed (Caltrans 1997).

The following three study area intersections would operate at an unacceptable LOS and were determined to be the most impacted for each scenario. The potential impact of the proposed project on local CO levels was assessed at these intersections with the Caltrans CL4 interface based on the California LINE Source Dispersion Model (CALINE4), which allows microscale CO concentrations to be estimated along each roadway corridor or near intersections (Caltrans 1998a).

1. (Year 2025) Intersection #4 – Joiner Parkway and Nicolaus Road for PM peak hour
2. (Year 2025) Intersection #10 – Nelson Lane and SR 65 for AM peak hour
3. (Year 2025) Intersection #12 – SR 65 Southbound and Ferrari Ranch Road for AM peak hour

The modeling analysis was performed for worst-case wind angle, in which the model selects the wind angles that produce the highest CO concentrations at each of the receptors. The suburban land classification of 40 inches (100 centimeters) was used for the aerodynamic roughness coefficient, which determines the amount of local air turbulence that affects plume spreading. The at-grade option was used in the analysis; for at-grade sections, CALINE4 does not permit the plume to mix below ground level. The mixing zone, which is defined as the width of the roadway plus 10 feet (3 meters) on either side, was estimated for each roadway using Google Earth (2016). The calculations assume a mixing height of 3,280 feet (1,000 meters), a flat topographical condition between the source and the receptor (link height of 0 meters), and a meteorological condition of little to almost no wind (1 meter per second), consistent with Caltrans guidance (Caltrans 1998b).

The vehicle emission factor was predicted using CARB's mobile source emissions inventory model, EMFAC2014, and represents the weighted average emission rate of the local Placer County vehicle fleet expressed in grams per mile per vehicle. Consistent with the traffic report, emission factors for 2025 were used in the CALINE4 model. Emission factors were based on a 10-mile-per-hour (mph)

average speed for all of the intersections, a temperature of 44.6°F,[5] and an average humidity of 55%. The hourly traffic volume anticipated to travel on each link, in units of vehicles per hour, was based on the TIA. Complete modeling assumptions are included in Appendix B.

Four receptor locations at each intersection were modeled to determine CO ambient concentrations. Each receptor was assumed to be located on the sidewalk at each corner of the modeled intersections. Receptors represent the possibility of extended outdoor exposure at locations adjacent to the modeled intersections. CO concentrations were modeled at these locations (highest recorded traffic volumes for each scenario) to assess the maximum potential CO exposure that could occur in 2025. A receptor height of 5.9 feet (1.8 meters) was used in accordance with Caltrans recommendations for all receptor locations (Caltrans 1998b).

The highest 1-hour CO concentration of 2.3 parts per million (ppm) from the last three years was used as the ambient CO background concentration. A persistence factor of 0.6, as is recommended for suburban locations, was applied to the output values of predicted concentrations in parts per million at each of the receptor locations.

The results of the model are shown in Table 4.3-10. Model input and output data are provided in Appendix B.

Table 4.3-10
CALINE4 Predicted Carbon Monoxide Concentrations

Intersection	Maximum Modeled Impact Long-Term 2025 (ppm)	
	1-hour	*8-hour*
(Year 2025) Joiner Parkway and Nicolaus Road (PM peak hour)	2.6	1.6
(Year 2025) Nelson Lane and SR-65 (AM peak hour)	2.8	1.7
(Year 2025) SR-65 Southbound and Ferrari Ranch Road (AM peak hour)	2.6	1.6

Source: Caltrans 1998a (CALINE4).
Notes: CO = carbon monoxide; ppm = parts per million.
Modeled concentrations reflect background 1-hour concentration of 2.3 ppm.
8-hour concentrations were obtained by multiplying the 1-hour concentration by a factor of 0.6, as referenced in Caltrans 1997, Table B.15.

As shown in Table 4.3-10, maximum CO concentration predicted for the 1-hour averaging period would be 2.8 ppm, which is below the state 1-hour CO standard of 20 ppm (see Table 4.3-2 for state standards). Maximum predicted 8-hour CO concentrations of 1.7 ppm would be below

5 The Caltrans Institute of Transportation Studies *Transportation Project-Level Carbon Monoxide Protocol* (CO Protocol) (Caltrans 1997) guidance is to use the smallest mean minimum temperature observed in January over the past 3 years plus the temperature adjustment for the geographic location and time period. The smallest mean minimum at the Sacramento 5 ESE station was 39.6°F in January 2015 (WRCC 2015). Assuming a 5°F correction factor for both AM and PM traffic conditions, average morning and evening temperature would be approximately 44.6°F (Caltrans 1997).

the state CO standard of 9 ppm. Neither the 1-hour nor 8-hour state standard would be equaled or exceeded at any of the intersections studied. Accordingly, CO hotspot impacts would be **less-than-significant**.

Impact 4.3-4. The project would not create objectionable odors affecting a substantial number of people.

The occurrence and severity of potential odor impacts depends on numerous factors. The nature, frequency, and intensity of the source; the wind speeds and direction; and the sensitivity of receiving location each contribute to the intensity of the impact. Although offensive odors seldom cause physical harm, they can be annoying and cause distress among the public and generate citizen complaints.

Potential odors produced during construction would be attributable to concentrations of unburned hydrocarbons from tailpipes of construction equipment, architectural coatings, and asphalt pavement application. In general, odors are highest near the source, but disperse quickly resulting in a reduced off-site exposure. Sensitive receptors located proximate to the proposed construction sites may be affected. However, construction of the proposed project would use typical construction techniques in compliance with PCAPCD rules and any odors associated with project construction activities would be temporary and would cease upon completion of construction. Therefore, impacts associated with odors during construction would be **less-than-significant**.

In regards to operations and land use compatibility, odor impacts are addressed qualitatively based on odor screening distances as recommended by PCAPCD guidance. Certain highly odiferous sources have screening distances of two miles. These include wastewater treatment plants, sanitary landfills, and certain industrial facilities (petroleum refineries, asphalt batch plants, and chemical manufacturing). Other odor sources have screening distances of one mile and include recycling and waste transfer stations, coffee roasters, and food processing facilities (PCAPCD 2012). The proposed project entails residential and commercial uses that would not result in sources commonly associated with odors. Typical odors generated from operation of the proposed project would include vehicle exhaust generated by residents, employees, or customers traveling to and from the proposed project, through the periodic use of landscaping or maintenance equipment, from the temporary storage of typical solid waste (refuse). It is expected that project-generated refuse would be stored in covered containers and removed at regular intervals in compliance with the City's solid waste regulations.

As previously discussed, the nearest existing source of odors is the Lincoln WWTP which is located approximately 1.8 miles southwest of the proposed project. Residential land uses proposed by the project would be located within PCAPCD's 2-mile screening distance of potential sources of odor for a wastewater treatment plant. Therefore, this is a potentially significant impact. PCAPCD was

contacted to determine an odor complaint history for the Lincoln WWTP. A review of the complaint history shows no complaints within a three-year period (PCAPCD 2017). Therefore, the proposed project would not create or expose a substantial number of people to objectionable odors and this impact would be **less-than-significant**.

4.3.5 Mitigation Measures

Mitigation Measures MM-AQ-1 through MM-AQ-4 are provided to reduce ROG, NO_x, and PM_{10} emissions to the extent feasible.

MM-AQ-1 Prior to approval of any construction-related permits, the project applicant or its designee shall place the following requirements on all plans, which shall be implemented during grading of each phase of the proposed project to minimize NO_x and PM_{10} emissions:

- Off-road heavy-duty diesel-powered construction equipment with engines rated as 75 horsepower or greater, shall be equipped with Tier 4 Final or better diesel engines, except where Tier 4 Final or better engines are not available for specific construction equipment. The City shall verify and approve all pieces within the construction fleet that would not meet Tier 4 Final standards;
- Minimize simultaneous operation of multiple construction equipment units. During construction, vehicles in loading and unloading queues shall not idle for more than 5 minutes and shall turn their engines off when not in use to reduce vehicle emissions;
- All construction equipment shall be properly tuned and maintained in accordance with manufacturer's specifications;
- The use of electrical or natural gas-powered construction equipment shall be employed where feasible including forklifts and other comparable equipment types;
- The use of catalytic reduction for gasoline-powered equipment shall be employed where feasible;
- All diesel-fueled on-road construction vehicles shall meet the emission standards applicable to the most current year to the greatest extent possible. To achieve this standard, new vehicles shall be used, or older vehicles shall use post-combustion controls that reduce pollutant emissions to the greatest extent feasible;
- In order to control dust, an operational watering truck shall be on site during construction hours. In addition, dry chemical sweeping is prohibited. Watering at

the construction site shall be carried out in the compliance with operating Placer County Air Pollution Control District rules and City of Lincoln requirements;

- Fugitive dust shall not exceed 40% opacity and not go beyond the project boundary at any time as required by District Rule 228 Fugitive Dust (Section 300). If lime or other drying agents are used to dry out wet grading areas, they shall be controlled so as to not exceed District Rule 228 Fugitive Dust limitations. The prime contractor shall be responsible for having an individual, CARB-certified to perform Visible Emissions Evaluations (VEE), who shall routinely evaluate compliance to Rule 228, Fugitive Dust on a weekly basis;
- The prime contractor shall be responsible for keeping adjacent public thoroughfares clean of silt, dirt, mud, and debris, and shall "wet broom" the streets (or use another method to control dust as approved by the individual jurisdiction) if silt, dirt, mud or debris is carried over to adjacent public thoroughfares;
- During construction, traffic speeds on all unpaved surfaces shall be limited to 15 miles per hour or less;
- To control dust once grading is complete, the prime contractor shall apply methods such as surface stabilization, establishment of the vegetative cover, paving, or other methods approved by the City.vi. The prime contractor shall suspend all grading activities when wind speeds (including instantaneous gusts) are high (typically winds greater than 25 miles per hour), and dust is traveling off site;
- Stockpiles of dirt shall be covered when not being used or otherwise controlled to prevent erosion and/or dust.

MM-AQ-2 Application of low VOC coatings used for exterior and interior of all surfaces of at least 50 g/L, which is beyond the local requirements (Placer County Air Pollution Control District Rule 228, Architectural Coatings).

MM-AQ-3 To reduce operational emissions of ROG, NO_x, and PM_{10} emissions, the following Placer County Air Pollution Control District Standard Operational Air Quality Mitigation Measures shall be implemented as part of the proposed project's final design:

- Diesel trucks shall be prohibited from idling more than five minutes. Prior to the issuance of a Building Permit, the applicant shall show on the submitted building elevations that all truck loading and unloading docks shall be equipped with one 110/208 volt power outlet for every two dock doors. Diesel Trucks idling for more than the allotted time shall be required to connect to

the 110/208 volt power to run any auxiliary equipment. A minimum 2'x3' signage which indicates "Diesel engine Idling limited to a maximum of five minutes" shall be included with the submittal of building plans.

- Prior to Design Review approval, the Site Plan shall show that the applicant has provided the number of preferential parking spaces for employees that carpool/vanpool/rideshare as required by the District. Such stalls shall be clearly demarcated with signage as approved by the Design Review Board.
- Prior to Design Review approval, the applicant shall show that on-site bicycle racks will be provided as required by the District.

MM-AQ-4 For individual projects to be developed under the Specific Plan that exceed the Placer County Air Pollution Control District criteria air pollutant thresholds after implementation of on-site mitigation, the following measures shall be applied, as determined feasible through coordination with the Placer County Air Pollution Control District:

- Establish mitigation off-site within the same region (i.e., City of Lincoln, western Placer County) by participating in an off-site mitigation program, coordinated through the Placer County Air Pollution Control District and/or by funding energy-efficiency measures (e.g., installation of insulation and/or dual pane windows in existing buildings), vehicle emission reduction measures (e.g., replace diesel school buses with natural gas buses), and/or trip-reduction measures (e.g., bike lanes and/or NEV lanes on streets that do not have them); and/or
- Participate in the District's Off-site Mitigation Program by paying the equivalent amount of money, which is equal to the proposed projects contribution of pollutants (ROG and NO_x), which exceeds the cumulative thresholds of 55 pounds per day. The actual amount to be paid shall be determined, and satisfied per current California Air Resource Board guidelines, at the time of recordation of the Final Map (residential projects), or issuance of a Building Permit (non-residential projects).

4.3.6 Level of Significance After Mitigation

Table 4.3-11 shows maximum daily emissions following implementation of mitigation measures MM-AQ-1 and MM-AQ-2. It should be noted that not all measures are quantifiable; therefore, Table 4.3-11 presents emission estimates following implementation of Tier 4 Final equipment (MM-AQ-1) and use of low VOC architectural coatings of at least 50 grams per liter (MM-AQ-2).

Table 4.3-11
Maximum Daily Construction Criteria Air Pollutant Emissions (Mitigated)

Year	ROG	NO_x	PM_{10}
	pounds per day		
2018	7.23	44.99	14.80
2019	76.99	68.10	18.51
2020	3.98	25.83	7.79
2021	61.66	25.15	7.96
2022	3.53	25.19	7.91
2023	50.33	32.97	10.21
2024	39.47	18.16	5.65
Maximum Daily	**76.99**	**68.10**	**18.51**
PCAPCD threshold	*82*	*82*	*82*
Threshold exceeded?	No	No	No

Notes: ROG = reactive organic gas; NO_x = oxides of nitrogen; PM_{10} = coarse particulate matter; PCAPCD = Placer County Air Pollution Control District.
See Appendix B for complete results.
The values shown are the maximum summer or winter daily emissions results from CalEEMod.
These estimates reflect implementation of PCAPCD Rule 228 assumes watering of the site two times per day and vehicle speeds of 15 miles per hour on unpaved roads, use of Tier 4 Final EPA engine standards, and application of low VOC architectural coatings of 50 g/L.

Implementation of the above mitigation measures would further reduce construction emissions on a daily basis to a level below the PCAPCD significance thresholds. Therefore, the proposed project would result in a **less-than-significant** impact in regards to construction activities.

Table 4.3-12 presents the maximum daily emissions with mitigation associated with operation of proposed project at buildout. The values shown are the maximum summer or winter daily emissions results from CalEEMod.

Table 4.3-12
Maximum Daily Operational Criteria Air Pollutant Emissions (Mitigated)

Year	ROG	NO_x	PM_{10}
	pounds per day		
Area Sources	49.96	5.44	0.60
Energy	0.83	7.38	0.57
Motor Vehicles	53.45	304.77	167.85
Total	**104.24**	**317.59**	**169.02**
PCAPCD threshold	*82*	*82*	*82*
Threshold exceeded?	**Yes**	**Yes**	**Yes**

Notes: ROG = reactive organic gas; NO_x = oxides of nitrogen; PM_{10} = coarse particulate matter; PCAPCD = Placer County Air Pollution Control District.
See Appendix B for complete results.
The values shown are the maximum summer or winter daily emissions results from CalEEMod.
These estimates reflects the application of low VOC (ROG) architectural coatings (50 g/L).

As shown in Table 4.3-12, mitigated maximum daily emissions of ROG, NO_x, and PM_{10} at full buildout of the proposed project would exceed the PCPAPCD significance thresholds. While MM-AQ-2 would reduce ROG emissions, the proposed project would still exceed the significance thresholds. MM-AQ-3 would reduce operational exhaust emissions from on-road vehicles and trucks associated with the proposed project, but the quantitative benefits of this measure are not known at this time. Finally, MM-AQ-4 would provide offsets for remaining emissions of ROG and NO_x. The approach taken to offsetting ROG and NO_x emissions has not been identified at this time, so it cannot be determined how effective the measure would be at reducing emissions to 55 pounds per day or less. As such, proposed project operations would result in a **significant and unavoidable impact**.

4.3.7 Cumulative Analysis

Impact 4.3-5. The project would result in a cumulatively considerable new increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative threshold emissions which exceed quantitative thresholds for ozone precursors).

The cumulative context of an air pollutant is dependent on the specific pollutant being considered. O_3 precursors are a regional pollutant; therefore, the cumulative context would be existing and future development within the entire SVAB. This means that O_3 precursors generated in one location do not necessarily have O_3 impacts in that area. Instead, precursors from across the region can combine in the upper atmosphere and be transported by winds to various portions of the air basin. Consequently, all O_3 precursors generated throughout the air basin are part of the cumulative context.

The geographic scope for the cumulative analysis is the City of Lincoln and surrounding areas, which is located within the Sacramento Federal Nonattainment Area (SFNA) for O_3. The SFNA includes the counties of Sacramento, Yolo, Solano (partial), Sutter (partial), Placer (except Lake Tahoe Air Basin), and El Dorado (except Lake Tahoe Air Basin). The PCAPCD establishes emissions thresholds for regional emissions.

For operational cumulative impacts associated with nonattainment pollutants, a project whose operational emissions would not exceed the PCAPCD cumulative significance thresholds would not be considered cumulatively considerable and would be less than significant. Because the proposed project's operational emissions would exceed the ROG and NO_x thresholds of significance, the proposed project's operational activities would be cumulatively considerable. Notably, operational on-road vehicle exhaust emissions reductions associated with MM-AQ-3 were not accounted for, since the quantitative benefits of this measure are not known at this time. If a project is unable to mitigate ROG or NO_x emissions to less than 55 pounds per day, the

PCAPCD recommends the proposed project participate in the PCAPCD Off-site Mitigation Program, which is included as MM-AQ-4. However, the approach taken to offsetting Plan ROG and NO_x emissions has not been identified at this time, so it cannot be determined how effective the measure would be at reducing project emissions to 55 pounds per day or less. Therefore, the proposed project's contribution to cumulative impacts during construction and operations would be **significant and unavoidable**.

4.3.8 References

13 CCR 2025. Regulation to Reduce Emissions of Diesel Particulate Matter, Oxides of Nitrogen and Other Criteria Pollutants, from In-Use Heavy-Duty Diesel-Fueled Vehicles.

13 CCR 2449–2449.3 and Appendix A. General Requirements for In-Use Off-Road Diesel-Fueled Fleets.

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EPA. 2017c. "EPA Region 9 Air Quality Maps and Geographic Information." Last updated March 7, 2017. Accessed April 2017. http://www.epa.gov/region9/air/maps/.

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4.4 BIOLOGICAL RESOURCES

This section describes the biological resources present in the project area and discusses applicable federal, state, and regional regulations pertaining to protection of biological resources. The potential effects on these existing biological resources from development of the SUD-B Northeast Quadrant Specific Plan (proposed project) are described, and mitigation for significant impacts is identified.

Several site-specific biological resource studies have been prepared for the two project areas that comprise the SUD-B Northeast Quadrant, which include the Gill Property and the Peery Property:

- Biological Resources Impact and Mitigation Report (Cardno Inc. (2015a);
- Arborist Report and Native Oak Tree Inventory-Gill Property (Cardno Inc. 2015b);
- Arborist Report and Native Oak Tree Inventory-Peery Property (Cardno Inc. 2015c)
- Jurisdictional Delineation Report-Gill Annexation (Cardno Inc. 2014);
- 2013-2014 90-Day Report of Findings Regarding Branchiopod Surveys-Peery Property (Cardno ENTRIX 2014);
- 2012-2013 90-Day Report of Findings Regarding Branchiopod Surveys-Peery Property (Cardno ENTRIX 2013);
- Jurisdictional Delineation Report-Peery Ranch (Cardno ENTRIX 2012).

This section uses the information from these studies to describe the existing conditions and conduct the analysis of impacts. These studies are included in Appendix C of this DEIR. Other sources consulted are listed in Section 4.4.8, References.

The SUD-B Northeast Quadrant overlaps with the study area for the recently completed Nelson Lane Road Widening and Bridge Replacement Project (SPK 2012 01017). The wetland features occurring in portions of both the Peery and Gill properties that overlap with the Nelson Lane project were verified separately during the permitting process for the Nelson Lane project, but are also included in the impacts analysis for the SUD-B Northeast Quadrant project. Some of the wetland features in the overlap area were impacted by the Nelson Land project, and are already suitably mitigated.

Comments received in response to the Notice of Preparation (NOP, see Appendix A) included the Central Valley Regional Water Quality Board and the Central Valley Flood Protection Board who noted the need to obtain proper permits for the proposed project (i.e., local, state and federal) for work within Waters of the United States and within Auburn Ravine.

4.4.1 Existing Conditions

This section describes the existing conditions in the project area and also identifies the resources that could be affected by construction and/or operation of the proposed project.

4.4.1.1 Project Location

The project area is located in Placer County, California, within the City of Lincoln Sphere of Influence. The project area is bounded by Nicolaus Road on the north, Nelson Lane on the west, and the Hwy 65 Bypass on the south. The eastern boundary abuts residential development and undeveloped land (Figure 1). The project area is composed of the Gill Property and the Peery Property. The Gill Property is one parcel (APN 021-292-001-000) located at the approximate latitude 38.8959° north and longitude 121.3381° west (Figure 1). The Peery Property comprises three parcels: a roughly rectangular 79-acre western parcel (APN 021-262-034), a roughly triangular 33-acre eastern parcel (APN 021-262-035), and a one-acre parcel located between the western and eastern parcels (APN 009-031-028). All parcels are located in Section 17, Township 12 North, Range 6 East of the Lincoln U.S. Geological Survey (USGS) 7.5 minute topographic quadrangle map, Mount Diablo Baseline & Meridian.

4.4.1.2 Existing Habitats

This project site has been used primarily for dry crop farming (i.e., hay) and grazing land with no structures or buildings present. Markham Ravine bisects the northern portion of the site, while a small portion of Auburn Ravine traverses the southeastern portion of the project site. The habitat types and land uses in the project area include non-native annual grassland, oak woodland, and riparian. These habitat types are described below.

Non-native Annual Grassland (Including Wetlands). The majority of both the Gill and Peery properties consist of non-native annual grassland. However, differing land management practices have resulted in substantial differences in the character of this habitat between the two properties. These differences are explained below.

The Gill Property does not appear to have been disked recently, and retains what appears to be the natural historic topography (Cardno Inc. (2015a). Typical plant species observed in this community, include medusa head grass (*Elymus caput-medusae*), wild oat (*Avena fatua*), soft chess (*Bromus hordeaceus*), foxtail barley (*Hordeum murinum* ssp. *leporinum*), purple needle grass (*Stipa pulchra*), chicory (*Cichorium intybus*), climbing bedstraw (*Galium porrigens*), and annual fireweed (*Epilobium brachycarpum*). Other species observed during the survey included red stemmed filaree (*Erodium cicutarium*), cutleaf geranium (*Geranium dissectum*), Bithynian vetch (*Vicia bithynica*), purple vetch (*Vicia benghalensis*), miniature lupine (*Lupinus bicolor*), fiddleneck (*Amsinckia menziesii*), black mustard (*Brassica nigra*), English plantain (*Plantago*

lanceolata), shepherd's purse (*Capsella bursa-pastoris*), field bindweed (*Convolvulus arvensis*), shamrock clover (*Trifolium dubium*), rose clover (*Trifolium hirtum*), and yellow star thistle (*Centaurea solstitialis*). Since the topography appears to be undisturbed, the boundaries of wetland features occurring there (primarily vernal pools) remain clear and distinct.

The entire western portion and most of the eastern portion of the Peery Property have been disked, seeded, and mowed annually for hay production for over 40 years. The western portion, which retains much of the natural topography, is dry farmed, while the eastern portion has been leveled and flood irrigated for many years. The primary vegetative cover in the Peery Property consists of stubble from oat grass, but other species observed include Fitch's tarweed (*Centromadia fitchii*), corn spurry (*Spergula arvensis*), yellow flower tarplant (*Holocarpha virgata*), turkey mullein (*Croton setigerus*), and vinegarweed (*Trichostema lanceolatum*). These latter species are generally sparse, and associated primarily with the seasonal wetlands or edges of the property. The wetland features (including seasonal wetlands, seasonal wetland swales, ditches and ephemeral drainages) within the Peery Property are degraded due to the long history of annual cultivation for hay production. The boundaries of any wetland features located there have become indistinct, and they no longer appear to support vernal pool plant species.

A large wet meadow area totaling 1.69 acres was mapped in the southeast corner of the Peery Property adjacent to Auburn Ravine, but separated from it by a levee. This feature is a shallow basin that surrounds a 0.36-acre irrigation pond and is densely vegetated with a variety of wetland plant species including water pepper (*Persicaria hydropiperoides*), umbrella sedge, Baltic rush (*Juncus balticus*), dallis grass (*Paspalum dilatatum*), and bull thistle (*Cirsium vulgare*). This meadow feature appears to have received water from one of two wells located in the southeast corner of the Peery Property, and likely receives water during flood irrigation of the adjacent graded field. The irrigation pond that occurs within the above described wet meadow also appears to receive its water primarily from nearby wells that were used to flood irrigate the adjacent hay field. Vegetation in this feature consists primarily of cattail along with some water pepper and umbrella sedge.

Oak Woodland. Oak Woodland occurs in a narrow band in the southeast corner of the Peery Property, along the upland portion of the Auburn Ravine corridor and along the adjacent portion of the Highway 65 Bypass. This stand of over 100 trees consists primarily of valley oak (*Quercus lobata*) along with a few blue oak (*Quercus douglasi*), interior live oak (*Quercus wislizenii*) and northern California black walnut (*Juglans hindsii*). The understory consists primarily of non-native grassland species including wild oats, ripgut brome (*Bromus diandrus*), Medusahead grass, prickly lettuce (*Lactuca serriola*), wild radish (*Raphanus sativus*), wild mustard (*Brassica* sp.), broad leaf filaree (*Erodium botrys*), English plantain, vetch (*Vicia* sp.), Spanish lotus (*Acmispon americanus* var. *americanus*), field bindweed, and cutleaf geranium.

109 trees (6" diameter or greater) have been identified, 84 of which are oak trees. Of the 84 oak trees, 40 are rated as poor or poor-fair condition.

Although not dense enough to qualify as Oak Woodland, scattered mature valley oaks are present in the grassland habitat in the northern portion of the Gill Property. Most of these trees are located north of Markham Ravine, but a few are present to the south. A total of 73 valley oak and interior live oak have been identified, 31 of which are rated as fair or fair-poor condition.

Riparian. Riparian vegetation occurs on the Gill Property along Markham Ravine. The canopy layer consists primarily of valley oak, with a few interior live oaks, northern California black walnut, and willow (*Salix* sp.) present as well. The understory is fairly sparse, but a few patches of Himalayan blackberry (*Rubus armeniacus*) are present. A narrow herbaceous understory including species such as fiddle dock (*Rumex pulcher*), common rush (*Juncus effusus*), sedges (*Carex* sp.), rough cocklebur (*Xanthium strumarium*), and curly dock (*Rumex crispus*) occurs along the banks in clumps, but otherwise the herbaceous layer consists of grasses and forbs similar to the adjacent grassland. Common cattails (*Typha latifolia*) and floating primrose (*Ludwigia peploides*) are present along the banks of Markham Ravine.

Riparian vegetation also occurs in the southeast corner of the triangle portion of the Peery Property along Auburn Ravine. The main channel is separated from the oak woodland area by a levee. The channel side of the levee and the opposite bank are vegetated by riparian woodland including Northern California black walnut (*Juglans hindsii*), willow, and valley oak, with an understory of Himalayan blackberry, pokeberry (*Phytolacca americana*) and a variety of annual grasses and forbs similar to that found in oak woodland habitat.

4.4.1.3 Special-Status Species

For the purposes of this EIR, special-status wildlife species are those listed as threatened or endangered under the FESA or CESA, as Fully Protected or a Species of Special Concern by the CDFW, or listed by the CNPS as rare, threatened, or endangered (Lists 1B.1 and 1B.2). Special-status species that have been observed in the project area or that have a Low, Moderate, or High likelihood of occurrence in the project area are listed in Table 4.4-1 below.

Table 4.4-1.
Special-Status Plant and Wildlife Species Occurring or Potentially Occurring in the Project Area

Scientific Name Common Name	Status	Habitat Requirements	Likelihood of Occurrence Within the Project Area
Invertebrates			
Branchinecta lynchi vernal pool fairy shrimp	Fed: FT CA: none	Occurs in small swales, earth slumps or basaltflow depressions with grassy or muddy bottoms in grasslands, but are also found in water pooled in sandstone outcrops and in alkaline vernal pools.	Present: This species was observed in the Peery Property during the 2012-2013 wet-season branchiopod surveys.
Lepidurus packardi Vernal pool tadpole shrimp	Fed: FE CA: none	Occurs in a variety of seasonal wetlands such as vernal pools, clay flats, alkaline pools, ephemeral stock tanks, road side ditches, and road ruts. Pools range in size from small, clear, well vegetated vernal pools to highly turbid alkali scald pools to large winter lakes.	Moderate: Vernal pool habitat could potentially provide suitable habitat for this species. This species not observed during the 2012-2013 and 2013-2014 wet season branchiopod surveys on the Peery Property. The closest CNDDB record for this species is 2.5 miles west of the project area.
Fish			
Oncorhynchus mykiss Central Valley steelhead	Fed: FT CA: none	Requires beds of loose, silt-free, coarse gravel for spawning. Also needs cover, cool water and sufficient dissolved oxygen. Passes through the San Francisco Bay during migrations to upstream spawning habitat.	High: Auburn Ravine is part of the critical habitat mapped by the USFWS for this species. Barriers to passage make Markham Ravine unsuitable.
Oncorhynchus tshawytscha Central Valley spring-run Chinook salmon	Fed: FT CA: ST	Requires clean, cold water over gravel beds with water temperatures between 6 and 14 C, and sufficient dissolved oxygen for spawning. Passes through the San Francisco Bay during migrations to upstream spawning habitat.	Present: Auburn Ravine provides suitable habitat for this species. This species was observed within Auburn Ravine within the project area during one of the visits related to the wetland delineation for the Peery Property. Barriers to passage make Markham Ravine unsuitable.
Oncorhynchus tshawytscha Sacramento River winterrun Chinook salmon	Fed: FE CA: SE		
Amphibians and Reptiles			
Spea hammondii Western spadefoot	Fed: none CA: SSC	Prefers open areas with sandy or gravelly soils, in a variety of habitats including mixed woodlands, grasslands, chaparral, sandy washes, lowlands, river floodplains, alluvial fans, playas, alkali flats, foothills, and mountains. Rain pools containing minimal numbers of bullfrogs, fish, or crayfish are necessary for breeding.	Low: Grassland and riparian habitats provide potential habitat within the project area. The nearest occurrence record in CNDDB is 7.5 miles to the south.

Table 4.4-1.
Special-Status Plant and Wildlife Species Occurring or Potentially Occurring in the Project Area

Scientific Name Common Name	Status	Habitat Requirements	Likelihood of Occurrence Within the Project Area
Actinemys marmorata Western pond turtle	Fed: none CA: SSC	Permanent or nearly permanent water in a wide variety of aquatic habitats. Requires basking sites. Nest sites may be found up to 0.5 km from water.	Moderate: Auburn Ravine and Markham Ravine provide suitable habitat. Species not observed during any field visits. The closest CNDDB record for this species is 5.5 miles to the east of the project area.
Mammals			
Antrozous pallidus Pallid bat	Fed: none CA: SSC	Found in grasslands, shrublands, woodlands, and forests from sea level up through mixed conifer forests. Inhabits open, dry habitats with rocky areas for roosting. Roosts also include cliffs, abandoned buildings, bird boxes, and under bridges.	Low: Potential roosting habitat present in oak trees and under Nelson Lane Bridge. Nearest CNDDB occurrence is over 15 miles to the southeast.
Corynorhinus townsendii Townsend's big-eared bat	Fed: none CA: Candidate, SSC	Found in caves, buildings, and tree cavities for night roosts. Maternity and hibernation colonies typically are in caves and mine tunnels.	Low: Potential roosting habitat present in larger oak trees and under the Hwy 65 Bypass and Nelson Lane Bridges. Nearest CNDDB occurrence is 9 miles to the east.
Birds			
Agelaius tricolor Tricolored blackbird	Fed: none CA: Threatened, SSC	Nests in dense stands of tules, cattails or blackberries that is adjacent to open grasslands or agricultural fields. Highly colonial species, most numerous in Central Valley and vicinity. Largely endemic to California. Requires open water, protected nesting substrate, and foraging area with insect prey within a few kilometers of the colony.	Low: Potentially suitable habitat present within the blackberry bushes and marsh habitat in the riparian areas of the project area. Nearest CNDDB occurrence is 1.5 miles to the south. Species not seen during site visits.
Ammodramus savannarum Grasshopper sparrow	Fed: none CA: SSC	Consists of moderately open grasslands and prairies with patchy bare ground.	Low: Potential foraging habitat present in the grassland habitat. Species not seen during site visits.
Athene cunicularia Burrowing owl	Fed: none CA: SSC	Nests in small mammal burrows that are in or adjacent to open dry annual or perennial grasslands, deserts and scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.	Low: Potential foraging habitat present in the grassland habitat. No burrows present within the project area. Nearest CNDDB occurrence is 2.8 miles to the south. Species not seen during site visits.

Table 4.4-1.
Special-Status Plant and Wildlife Species Occurring or Potentially Occurring in the Project Area

Scientific Name Common Name	Status	Habitat Requirements	Likelihood of Occurrence Within the Project Area
Buteo swainsoni Swainson's hawk	Fed: none CA: ST	Forages in a wide variety of open habitats such as grasslands, open scrub, and agricultural fields. Nests in large, typically riparian trees, but will occasionally utilize ornamental species such as Eucalyptus if they are near foraging habitat.	Present: The grasslands and crop of nonnative grasses provide suitable foraging habitat for this species, the trees within the riparian corridor provide potential nesting habitat for this species. Nearest CNDDB occurrence is 1.0 mile to the northeast. Species has been observed during site visits.
Elanus leucurus White-tailed kite	Fed: none CA: FP	Rolling foothills and valley margins with scattered oaks, and river bottomlands or marshes next to deciduous woodland. Open grasslands, meadows, or marshes for foraging close to isolated, dense-topped trees for nesting and perching.	Moderate: This species is relatively common in the region, but was not observed during the survey. No evidence of a nesting colony was observed during the survey. Nearest CNDDB occurrence is 5.25 miles to the southeast. Species not seen during site visits.
Progne subis Purple martin	Fed: none CA: SSC	Found in a variety of wooded, low-elevations habitats. Uses valley foothill and montane hardwood, valley foothill and montane hardwood-conifer, and riparian habitats. Also occurs in coniferous habitats, including closed-cone pine-cypress, ponderosa pine, Douglas fir, and redwood.	Moderate: Trees within the riparian habitat provides suitable nesting habitat. There are no CNDDB occurrences for this species within 10 miles of the project area.
Setophaga petechia Yellow warbler	Fed: none CA: SSC	Found in riparian forests, but also in open shrubbery in conifer forests. Prefers willows, cottonwoods, aspens, sycamores, and alders for nesting and foraging.	Low: Potential habitat present in the riparian habitats. Nearest CNDDB occurrence is over 15 miles to the north.
Plants			
Downingia pusilla Dwarf downingia	Fed: none CA: none Other: RPR: 2B.2	Occurs in valley and foothill grasslands (mesic sites), and vernal pools. Blooms from March to May. Ranges in elevations from 1 to 445 meters (1,460 feet).	Moderate: Potential habitat present in the grassland and vernal pool habitat within the Project Area. There are seven CNDDB occurrences for this species within three miles of the project area. Species not seen during site visits.

Table 4.4-1.
Special-Status Plant and Wildlife Species Occurring or Potentially Occurring in the Project Area

Scientific Name Common Name	Status	Habitat Requirements	Likelihood of Occurrence Within the Project Area
Juncus leiospermus var. *ahartii* Ahart's dwarf rush	Fed: none CA: none Other: RPR: 1B.2	Found in mesic areas of valley and foothill grasslands. Blooms from March to May. Ranges in elevations from 30 to 229 meters (98 to 751 feet).	Moderate: Potential habitat present within the grassland habitat within the project area. Nearest CNDDB occurrence is 1.1 miles to the north. Species not seen during site visits.
Juncus leiospermus var. *leiospermus* Red Bluff dwarf rush	Fed: none CA: none Other: RPR: 1B.1	Found in vernally mesic areas of chaparral, cismontane woodland, meadows and seeps, valley and foothill grassland, and vernal pools. Blooms from March to May. Ranges in elevations from 35 to 1,250 meters (115 to 4,100 feet).	Moderate: Potential habitat present in the grassland and vernal pool habitat within the project area. Nearest CNDDB occurrence is 5.5 miles to the south. Species not seen during site visits.
Legenere limosa Legenere	Fed: none CA: none Other: RPR: 1B.1	Occurs in vernal pools. Blooms from April to June. Ranges in elevations from 1 to 880 meters (2,887 feet).	Moderate: Potential habitat present in the project area Nearest CNDDB occurrence is 2.4 miles to the south. Species not seen during site visits.

Notes: Special-status Plant and Wildlife Species: Plants that were included in this table have a ranking of CNPS 2.3 or higher. Any species included in this table were either documented within the Project area by previous survey reports, or contained within the query of the: (1) CNDDB (August 2014); (2) USFWS Endangered Species List (August 2014); and/or (3) CNPS Online Inventory (August 2014).
Status:
Federal
FE Federally listed as "Endangered"
FT Federally listed as "Threatened"
State
SE State listed as "Endangered"
ST State listed as "Threatened"
FP State designated "Fully Protected" or "Protected"
SSC State designated "Species of Special Concern"
Other
CNPS: Rare Plant Rank
1B.1 Plants rare, threatened, or endangered in California and elsewhere; seriously threatened in California
1B.2 Plants rare, threatened, or endangered in California and elsewhere, fairly threatened in California

Although it is not technically a special-status species, osprey (*Pandion haliaetus*) are protected under the MBTA and have the potential to occur in or near the project area. Ospreys are found on ocean shores, bays, freshwater lakes, and large streams. Ospreys require large trees within 15 miles of a water body to build large nests. They feed mainly on fish, but also are known to hunt small rodents. There is moderate potential for osprey to utilize nesting habitat in the trees along Auburn Ravine within the project area, but foraging habitat is limited. The nearest CNDDB occurrence is approximately 5.25 miles to the southeast of the project area.

4.4.1.4 Critical Habitat

The project area is within Critical Habitat for the vernal pool fairy shrimp and the Central Valley steelhead.

4.4.2 Relevant Plans, Policies, and Ordinances

Federal

Federal Endangered Species Act

The FESA prohibits the taking, possession, sale or transport of endangered species. Pursuant to the requirements of FESA, a federal agency reviewing a project within its jurisdiction must determine whether any federally listed threatened or endangered species could be present in the project site and determine whether the project would have a potentially significant impact on such species. In addition, federal agencies are required to determine whether the project is likely to jeopardize the continued existence of any species proposed to be listed under FESA or result in the destruction or adverse modification of critical habitat proposed to be designated for such species (16 USC 1536[3], [4]). Projects that would result in "take" of any federally-listed threatened or endangered species are required to obtain authorization from the National Marine Fisheries Service (NMFS) and/or U.S. Fish and Wildlife Service (USFWS) through either Section 7 (interagency consultation) or section 10(a) (incidental take permit) of FESA, depending on whether the federal government is involved in permitting or funding the project.

Migratory Bird Treaty Act

The MBTA regulates or prohibits taking, killing, possession of, or harm to migratory bird species listed in Title 50 Code of Federal Regulations (CFR) Section 10.13. The MBTA is an international treaty for the conservation and management of bird species that migrate through more than one country, and is enforced in the United States by the USFWS. Hunting of specific migratory game birds is permitted under the regulations listed in Title 50 CFR 20. The MBTA was amended in 1972 to include protection for migratory birds of prey (raptors).

Federal Clean Water Act (Section 404)

The objective of the federal CWA is to restore and maintain the chemical, physical, and biological integrity of the Nation's waters. Under Section 404 of the CWA, the U.S. Army Corps of Engineers (USACE) has the authority to regulate activity that could discharge fill or dredge material or otherwise adversely modify wetlands or other waters of the U.S. The USACE implements the federal policy embodied in Executive Order 11990, which, when implemented, is intended to result in no net loss of wetland values or function.

Federal Clean Water Act (Section 401)

The State Water Resources Control Board (SWRCB) has authority over wetlands through Section 401 of the CWA, as well as the Porter-Cologne Act, California Code of Regulations Section 3831(k), and California Wetlands Conservation Policy. The CWA requires that an applicant for a Section 404 permit (to discharge dredged or fill material into waters of the United States) first obtain a certificate from the appropriate state agency stating that the fill is consistent with the State's water quality standards and criteria. In California, the authority to either grant certification or waive the requirement for permits is delegated by the SWRCB to the nine regional boards. The Central Valley Regional Water Quality Control Board (CVRWQCB) is the appointed authority for Section 401 compliance in the project area. A request for certification or waiver is submitted to the regional board at the same time that an application is filed with the USACE.

State

California Endangered Species Act

Under the CESA, the California Fish and Wildlife Commission (CFWC) has the responsibility of maintaining a list of threatened species and endangered species. The California Department of Fish and Wildlife (CDFW) also maintains lists of species of special concern. A Species of Special Concern (CSC) is a species, subspecies, or distinct population of an animal native to California that currently satisfies one or more of the following (not necessarily mutually exclusive) criteria:

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

CESA prohibits the take of California listed animals and plants in most cases, but CDFW may issue incidental take permits under special conditions. Pursuant to the requirements of CESA, a State agency reviewing a project within its jurisdiction must determine whether any state-listed

endangered or threatened species could be present in the project site and determine whether the project would have a potentially significant impact on such species.

Fish and Game Code Sections 3503, 3511, 3513

Fish and Game Code Section 3503 states that it is unlawful to take, possess, or needlessly destroy the nests or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto. Fish and Game Code Section 3503.5 protects all birds-of-prey (raptors) and their eggs and nests. Section 3511 states fully protected birds or parts thereof may not be taken or possessed at any time. Section 3513 states that it is unlawful to take or possess any migratory non-game bird as designated in the MBTA.

Streambed Alteration Agreement

Under Sections 1600-1616 of the California Fish and Game Code, the CDFW regulates activities that would alter the flow, bed, channel, or bank of streams and lakes. The limits of CDFW's jurisdiction are defined in the code as the "… *bed, channel or bank of any river, stream, or lake designated by the department in which there is at any time an existing fish or wildlife resource or from which these resources derive benefit* ..." (Section 1601). In practice, the CDFW usually marks its jurisdictional limit at the top of the stream or bank, or at the outer edge of the riparian vegetation, whichever is wider.

Wetlands Protection Regulations

CDFW derives its authority to oversee activities that affect wetlands from state legislation. This authority includes Sections 1600-1616 of the Fish and Game Code (lake and streambed alteration agreements), CESA (protection of state listed species and their habitats - which could include wetlands), and the Keene-Nejedly California Wetlands Preservation Act of 1976 (states a need for an affirmative and sustained public policy program directed at wetlands preservation, restoration, and enhancement). In general, the CDFW asserts authority over wetlands within the state either through review and comment on USACE Section 404 permits, review and comment on CEQA documents, preservation of state listed species, or through stream and lakebed alteration agreements.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act established the SWRCB and each Regional Water Quality Control Board (RWQCB) as the principal state agencies for coordinating and controlling water quality in California. Responsibility for the protection of water quality in California rests with the SWRCB and nine RWQCBs. The CVRWQCB has regulatory authority over the project area.

The Porter-Cologne Water Quality Control Act provides that "All discharges of waste into the waters of the State are privileges, not rights." Waters of the State are defined in Section 13050(e) of the Porter-Cologne Water Quality Control Act as "…any surface water or groundwater, including saline waters, within the boundaries of the state." All dischargers are subject to regulation under the Porter Cologne Water Quality Control Act, including both point and nonpoint source dischargers. The CVRWQCB has the authority to implement water quality protection standards through the issuance of permits for discharges to waters at locations within its jurisdiction, which would include the project site. As noted above, the CVRWQCB is the appointed authority for Section 401 compliance in the project area. If the USACE determines that they have no regulatory authority in the project area and they also determine that a CWA Section 404 permit is not required, the project proponent could still be responsible for obtaining the appropriate CWA Section 401 permit or waiver from CVRWQCB for impacts to Waters of the State.

California Environmental Quality Act

Although threatened and endangered species are protected by specific federal and state statutes, CEQA Guidelines Section 15380(b) provides that a species not listed on the federal or state list of protected species may be considered rare or endangered if the species can be shown to meet certain criteria. These criteria have been modeled after the definition in FESA and the section of the California Fish and Game Code dealing with rare or endangered plants and animals, and allows a public agency to undertake a review to determine if a significant effect on a species that has not yet been listed by either the USFWS or CDFW (i.e., species of concern) would occur. Whether a species is rare, threatened, or endangered can be legally significant because, under CEQA Guidelines Section 15065, an agency must find an impact to be significant if a project would "substantially reduce the number or restrict the range of an endangered, rare, or threatened species." Thus, CEQA provides an agency with the ability to protect a species from a project's potential impacts until the respective government agencies have an opportunity to designate the species as protected, if warranted.

Local

Placer Legacy Open Space and Agricultural Conservation Program

The Placer Legacy Open Space and Agricultural Conservation Program (Placer Legacy Program) is a non-regulatory program for the preservation of biological resources, agricultural lands, and open space. The Placer Legacy Program was initiated by the Board of Supervisors in 1998 to implement the goals, policies and programs of the Placer County General Plan. The Placer Legacy Program has established a number of program goals, including preserving the diversity of plant and animal communities and protecting endangered and other special-status plant and animal species. A core interest of the Placer Legacy Program is to enable the County to make itself a willing buyer to

persons wishing to sell interest in lands having value for conservation purposes. The City of Lincoln is currently involved in the development of the Placer Legacy Program.

Placer County Conservation Plan

As a companion to the Placer Legacy Program, the Placer County Conservation Plan (PCCP) is a Natural Communities Conservation Plan/Habitat Conservation Plan (NCCP/HCP) that, if approved, will provide programmatic Incidental Take Permits and wetlands permits for certain activities under the FESA and CESA. The PCCP is still under development, and Placer County and the City of Lincoln are participating agencies.

City of Lincoln Cutting and Removal of Oak Trees

Chapter 18.69 of the City of Lincoln Municipal Code provides for the protection of oak trees. The ordinance states it is the policy of the city to preserve all oak trees through its development review process while at the same time recognizing individual rights to develop private property. Section 18.69.020 (Enforcement) establishes the City's authority to inspect construction sites for violations of the tree protection guidelines and enforce those regulations. Section 18.69.030 (Restoration and Replacement of Oak Trees) provides that if an oak tree has been removed or irrevocably harmed in violation of the conditions of individual project approval, the City may require the planting of replacement trees or fee payment to the City. The City of Lincoln Department of Public Works Design Criteria & Procedures Manual (2004) requires that grading plans identify native oaks and the protection zone around those trees.

City of Lincoln General Plan

The City of Lincoln's adopted 2050 General Plan includes goals and policies that relate to biological resources and are applicable to the proposed project:

Policy OSC-1.1 Protect Natural Resources: 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.

Policy OSC-1.3 Creation of Buffers: In new development areas, the City shall encourage the use of open space or recreational buffers between incompatible land uses.

Policy OSC-1.4 100-year Floodplains: The city will apply open space designations to all lands located within the l00 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.

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-5.1 Protect Significant Vegetation: 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).

Policy OSC-5.2 Management of Wetlands: 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.

Policy OSC-5.3 Placer Legacy Open Space and Conservation Program: The City will continue to coordinate with Placer County and the Placer Legacy Open Space and Conservation Program to protect habitat areas that support endangered species and other special-status species.

Policy OSC-5.4 Encourage Planting of Native Vegetation: 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.

Policy OSC-5.5 New Development in Sensitive Areas: 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.

Policy OSC-5.6 No Net Loss of Wetlands: The City will maintain a policy of no net loss of wetlands 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.

Policy OSC-5.7 404 Permit Requirements: 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.

Policy OSC-5.8 Corps of Engineers Disclaimers: 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.

Policy OSC-5.9 Wetlands Dedication: 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.

Policy OSC-5.10 Native Vegetation for Landscaping: The City shall develop a list of native vegetation to be used as a landscape pallette for use within open space / preserve areas. Native plants should also be incorporated into plant palettes used in developed areas by citizens and developers.

Policy OSC-5.11 Requirement for Biological Studies: 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.

Policy OSC-5.12 Appropriate Mitigation Measures: 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 statute or agency (e.g., USFWS, CDFG, etc.) with jurisdiction over any affected sensitive habitats or special status species.

Policy OSC-5.13 Minimize Lighting Impacts: 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.

4.4.3 Thresholds of Significance

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

1. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.
2. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.
3. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.
4. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.
5. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
6. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

4.4.4 Impacts Analysis

4.4.4.1 Methods of Analysis

The project setting was developed by reviewing available published information on wetlands and "other waters of the U.S." and special-status species or their habitat known to occur in the project area vicinity. The information review included:

- Site-specific studies prepared, as listed in Section 4.4.
- A query of the CNDDB, USFWS, and CNPS species list databases for the Lincoln, Wheatland, Sheridan, Pleasant Grove, Roseville, Rocklin, Gold Hill, Wolf, and Camp Far West USGS 7.5 minute quadrangle maps;
- A review of the habitat requirements of the special-status species determined to have potential to occur in the project area through the above queries. Results of the CNDDB and USFWS queries are provided in Appendix E. A list of species likely to occur in and/or be affected by the proposed project was derived from the CNDDB and USFWS database queries, and is provided in Table 2. This list represents those species identified in the review as having the highest likelihood to occur in the project area (i.e., within the known range, or with potential habitat present). This data review was supplemented with field surveys in 2012 through 2014 to determine which of these species actually occurs or whether potential habitat for these species is present in the project area.

Potential impacts of the proposed project on biological resources were identified by first comparing the habitat requirements of those species identified during the above data reviews to the habitat available on and adjacent to the project area. Species identified by these sources as potentially occurring in the area, but for which there is either no suitable habitat or the project area is outside the known range of the species, are not addressed further. For the species and habitat that are known or could be present within the project area, a determination was then made as to what effect the loss of that potential habitat would have on those species. The SUD-B Northeast Quadrant Specific Plan Land Use Map (Figure 4 in the SUD-B Specific Plan) was used to assist in quantifying impacts to biological resources.

4.4.4.2 Analysis

Impact 4.2-1. The project would have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.

Several special-status wildlife species were observed on site or have the potential to occur on site and/or in the project area. These species include vernal pool fairy shrimp, vernal pool tadpole

shrimp, Central Valley steelhead, Chinook salmon (Central Valley spring run and Sacramento River winter runs), western pond turtle, Swainson's hawk, and white-tailed kite. The project could have a substantial adverse effect on these and other special-status species as a result of the overall loss of habitat from conversion of suitable habitat to developed uses, and from direct disturbance of individual animals within the project site during construction activities. Each of these is discussed below.

Loss of Special-Status Wildlife Habitat

Vernal pool crustacean habitat is present in the project area, including a total of 77 vernal pools on the Gill Property. No protocol-level wet-season surveys have been completed on the Gill Property, but the presence of special-status vernal pool crustaceans may be assumed (unless protocol-level surveys are completed at a future date, as approved by the USFWS). Although no wetland features were identified as vernal pools on the Peery Property, protocol-level wet-season surveys there have identified the presence of vernal pool fairy shrimp in seasonal pools there. Development of the project area would result in the loss of this habitat, and the species contained therein through grading and other ground disturbing activities that remove the habitat and alter the hydrology of the area.

The perennial streams of Auburn Ravine and Markham Ravine, as well as the irrigation pond on the project site provide potential habitat for western pond turtle. The riparian corridors along Markham and Auburn Ravines would be generally avoided and placed into open space. However, construction activities may occur within the irrigation pond that could be occupied by western pond turtle.

Shrubs and trees in the project area provide nesting and foraging habitat for special-status bird species as well as for common native bird species protected by the federal MBTA and California Fish and Game Code. Most of the existing trees and shrubs are within the riparian corridor and would be retained as part of an open space plan included as part of the proposed project. However, any tree and shrub removal associated with the proposed project could result in “take” of active bird nests due to direct destruction of active nests or through nest abandonment as a result of construction activities adjacent to active nests. Implementation of the proposed project would result in the loss of up to 187 acres of foraging habitat for special-status raptors in the project area, including Swainson’s hawk, white-tailed kite, and burrowing owl.

Impacts to Special-Status Wildlife from Construction

Direct adverse impacts could result during construction from movement of heavy equipment, haul trucks, and other vehicles on, into, and out of the project area. Construction operations would also include grading and stockpiling of materials, as well as general construction noise and fugitive dust. Increased human presence and activity within the project area during

construction or after project completion could affect special-status species by impeding access to drinking water for species living in adjacent woodlands and agricultural lands, increasing noise level or lighting, and general harassment by pets and/or humans.

The project would generate noise during construction (e.g., heavy equipment bringing in supplies and grading surfaces; use of power and hand tools assembling structures) scrapers and loaders, dumping and loading of dirt in transport trucks, transport truck movement). Operation of the project would result in more limited noise associated with traffic on roadways and service of the commercial facilities (e.g., back up alarms on delivery trucks, external speakers, and general noise of human presence). Noise and vibration can impact wildlife in a variety of ways. Effects can include abandonment of existing habitat areas (Kuck et al. 1985), disruption of feeding activity (Knight 1984), reduced reproductive success (Halfwerk et al. 2011), and physiological stress. Noise has also been implicated in patterns of reduced species richness and abundance near a highway (Eigenbrod et al. 2009). According to residents in the project vicinity who commented on the Notice of Preparation for this EIR, sound generated within the project area propagates widely throughout the area already, and would be compounded by this additional construction activity. Thus, noise from the project has the potential to affect species occupying the surrounding agricultural fields, riparian habitat and grasslands to the east. Although no focused nest surveys were conducted for this project, any active white-tailed kite, burrowing owl, and Swainson's hawk could be negatively affected by noise, causing them to abandon active nests. In general, noise impacts are discussed in Section 4.11, Noise, of this EIR.

Releases of pollutants such as oil from machinery or gasoline spills during construction can adversely affect water quality and aquatic species. Significant releases could cause acute and chronic toxicity to aquatic organisms and adversely affect reproductive ability. Immediate mortality could result with the release of highly toxic chemicals or extensive release of chemicals with lower toxicities. Moderate effects such as a decrease in essential body functions and reproductive failure can lead to population decreases. Central Valley steelhead, Chinook salmon and western pond turtle could be negatively affected by a variety of pollutant releases, as could a range of non-special-status plant and wildlife species. Invertebrate species such as vernal pool tadpole shrimp and vernal pool fairy shrimp could also be affected by spills in wetland swales or vernal pool habitat. Spills during project operation are likely to be small and it is anticipated would not cause substantial adverse effects to species or habitat.

Impacts to Special-Status Plant Species

Four special-status plant species have the potential of occurring within the project area: dwarf downingia (*Downingia pusilla*), Ahart's dwarf rush (*Juncus leiospermus* var. *ahartii*), Red Bluff dwarf rush (*Juncus leiospermus* var. *leiospermus*), and Legenere (*Legenere limosa*). These species were not observed during any field visits, but suitable habitat is present on the Gill

property (the northerly 72.6 acres of the project site). Grading activity and heavy machinery could potentially trample, damage and/or remove special-status plant species and their associated seed banks. Destruction of aquatic habitat such as wetlands and vernal pools that support special-status plant species would also remove seed banks and individual plants, and altered hydrology due to project activities could affect the health of plants in the future.

Summary

Impacts to special-status species from project construction and operation activities would be **potentially significant**, but would be reduced to less than significant levels with implementation of Mitigation Measures BIO-1 through BIO-12.

Impact 4.4-2. The project would have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.

Riparian habitat along Markham Ravine (within the Gill Property) provides quality foraging and cover habitat for several wildlife species, namely avian species, including some special-status species listed above. These riparian plants provide cover for riparian birds, amphibians, reptiles, and other species. The SUD-B Specific Plan states that development shall be set back from Markham Ravine to stay out of the floodplain, as well as provide for an extension of the Markham Ravine trail system (City of Lincoln 2008, Open Space and Conservation Policy OSC-1.4)). Additionally, the Specific Plan states that environmentally sensitive areas are to remain in their natural condition, whenever possible, and enhanced to promote wildlife habitat and provide corridors for pedestrian circulation. The proposed project would alter the existing drainage of the project area, including constructing new outfalls to Markham and Auburn Ravine. In addition, construction adjacent to or within the ravines, including trail improvements, could impact wildlife habitat. This impact would be **potentially significant**. With the implementation of Mitigation Measures BIO-1, BIO-2, BIO-5, and BIO-12, this impact would be reduced to less than significant.

Native oak trees are an important aspect of the natural environment in the Lincoln area, and are afforded protection under Chapter 18.43 of the City's Municipal Code. Oak trees in good condition that are removed or irrevocably harmed during construction activities may require replacement, in-kind, of oak trees and/or payment into the City's tree mitigation fund. Oak trees located near Auburn Ravine and Markham Ravine would be retained for the most part, but could be damaged during construction. Scattered oak trees located outside of the riparian areas may be removed during the development of residential and commercial land uses. As discussed in Section 4.4.1.2, there are a total of 157 oak trees (diameter of 6" or greater) on the project site. It is not known how many trees would be removed due to project activities and/or poor health, but

the removal of any native oak trees is considered a **potentially significant impact**. This impact would be reduced to less than significant with the implementation of Mitigation Measures BIO-4 and BIO-5.

Impact 4.4-3. The project would have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

A Jurisdictional Delineation Report was prepared in March 2015 to determine if Waters of the U.S. or Waters of the State, including wetlands, were present in the Gill Property (Appendix C). The report, based on fieldwork conducted in April 2014 and February 2015, determined that a total of 6.47 acres of wetlands and waters of the U.S. are present in the Gill Property portion of the project area including: 77 vernal pools (4.16 acres), two seasonal wetlands (0.63 acre), Markham Ravine (0.62 acre, 1173.1 linear feet), an ephemeral drainage tributary to Markham Ravine (0.01 acres, 187 linear feet), and a seasonal drainage tributary to Markham Ravine (0.21 acres, 927.1 feet).

An additional Jurisdictional Delineation Report was prepared in March 2015 to determine if Waters of the U.S. or Waters of the State, including wetlands were present in the Peery Property area (Appendix C). The report was based on fieldwork conducted in 2011 and 2012, and determined that a total of 7.53 acres of wetlands and waters of the U.S. are present on the Peery Property including: 35 seasonal wetlands (3.29 acres), four seasonal wetland swales (1.80 acres), one wet meadow (1.69 acres), one irrigation pond (0.36 acre), one ditch (0.057 acre, 815 linear feet), one ephemeral drainage (0.030 acre, 60 linear feet), and a portion of Auburn Ravine (0.32 acre, 430 linear feet).

Markham and Auburn Ravines and their associated floodplains would be avoided and left as open space within the project boundaries. However, all other mapped jurisdictional features within the project area would be removed by project activities and the development of the site. This would be a **potentially significant** impact. However, the removal of wetland features would be mitigated such that "no net loss" of wetlands would occur, as required by USACE under Mitigation Measure BIO-3. Therefore, impacts to wetland features would less than significant after implementation of Mitigation Measure BIO-3.

Impact 4.4-4. The project would interfere with the movement of native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

Auburn Ravine and Markham Ravine provide significant corridors for local wildlife movement in the project vicinity. These streams provide potential wildlife movement corridors between off-site areas of suitable habitat, including spawning habitat, riparian areas, and other habitat suitable for foraging and cover by common wildlife species such as coyote, raccoon, Virginia opossum, and wild

turkey (*Meleagris gallopavo*). The associated irrigation pond, vernal pools, and riparian habitats could provide habitat for other wildlife species, including waterbirds and waterfowl. Oak and willow trees could provide important shelter, nesting and foraging habitat for both common and special-status migratory wildlife species in the region. The hay fields and grasslands that comprise most of the project area may provide foraging habitat for some passerines and urban wildlife species, but due to the level of regular human disturbance, this habitat is less suitable for wildlife movement. Auburn Ravine is spawning habitat for Chinook salmon and Central Valley steelhead. Markham Ravine is not considered spawning habitat for Chinook salmon or Central Valley steelhead due to barriers to passage. Although the project seeks to restore these waterways, construction activities could adversely impact these waterways in the short term. This would be a **potentially significant** impact. Avoidance of these features (described in Section 4.4.5) and implementation of Mitigation Measures BIO-12 and BIO 13 would ensure that impacts to native salmon and steelhead and other wildlife would be less than significant after mitigation.

Impact 4.4-5. The project would conflict with local policies or ordinances protecting biological resources, such as a tree preservation ordinance.

As discussed above, Chapter 18.69 of the City's Municipal Code regulates all projects with the potential to affect any protected trees. Section 18.69.010 (Guidelines) describes guidelines for development around existing oak trees in order to protect those trees from harm during and after construction. Section 18.69.020 (Enforcement) establishes the City's authority to inspect construction sites for violations of the tree protection guidelines and enforce those regulations. Section 18.69.030 (Restoration and Replacement of Oak Trees) provides that if an oak tree has been removed or irrevocably harmed in violation of the conditions of individual project approval, the City may require the planting of replacement trees or fee payment to the City.

Because the project may adversely impact the oak woodland habitat within the project site, the project would conflict with these requirements, which would be a **potentially significant** impact. However, with the implementation of Mitigation Measure BIO-4 to replace and/or mitigate for the loss of native oaks, impacts would be reduced to less than significant after mitigation.

Impact 4.4-6. The project would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

The Placer Legacy Open Space and Agricultural Conservation Program (Placer Legacy Program) objectives include preserving the diversity of plant and animal communities and protecting endangered and other special-status plant and animal species. The proposed project, which is located within a future development area under the City's General Plan, would not conflict with

the objectives of the Program is not subject to the Program. Furthermore, the Program does not place specific requirements on development projects.

The City of Lincoln is currently involved in the development of the PCCP, which is a NCCP/HCP program. The PCCP is still under development and has not yet been adopted. The mitigation measures discussed in Section 4.4.5, below, consider the possibility that the PCCP may be adopted prior to completion of the project.

The potential for conflict with an approved NCCP/HCP is **less than significant**.

4.4.5 Mitigation Measures

Implementation of the following mitigation measure(s) would reduce impacts to a less-than-significant level.

MM-BIO-1 ***Workers Environmental Awareness Program.*** All workers shall receive worker environmental awareness training (WEAP) conducted by a qualified biologist or an environmentally trained construction foreman. WEAP may also be conducted through a video created by a qualified biologist specifically for this project. WEAP shall instruct construction workers to recognize all special-status species potentially present in the project area, identify their habitat, and the nature and purpose of protective measures including best management practices (BMPs) and other required mitigation measures described in the EIR. They shall also be instructed to avoid Markham and Auburn Ravines, prevent construction-related fuel spills, and receive contact information for the qualified biologist in the event a special-status species is harmed or identified during project construction.

MM-BIO-2 ***Biological Monitor***. During project construction activities, a biological monitor shall monitor all construction activities in or adjacent to Auburn and Markham Ravines, as well as perform regular nesting bird surveys throughout the project area. The monitor shall have the authority to immediately stop any activity that is likely to impact special-status species or order any reasonable measure to avoid or minimize impacts to fish and wildlife resources. If any previously unknown special-status species are found within the project area during project construction, the monitor shall inform the USFWS and/or CDFW within 1 day, as appropriate for the species.

MM-BIO-3 ***Wetlands and Waters of the U.S.*** Wetlands and waters of the U.S. lost as a result of construction activities shall be replaced on a "no-net-loss" basis in accordance with USACE regulations and one of the following methods:

a. If the PCCP is adopted and approved by the agencies, participation in the PCCP shall satisfy all mitigation requirements under CEQA.

b. If the PCCP has not been adopted and approved by the agencies at the time the project applicants wish to proceed with permitting. The following process shall be used in planning for replacement:

   i. For new wetlands created on site in open space areas, a conceptual on-site wetlands mitigation plan shall be prepared by a qualified biologist pursuant to, and through consultation with, the USACE, including an agreed-upon replacement ratio of wetlands with the USACE. The mitigation plan shall quantify the total jurisdictional acreage lost, describe creation/replacement ratio for acres filled, annual success criteria, potential mitigation-sites, and monitoring and maintenance requirements.

   ii. The plan may include funding mechanisms for future maintenance of the wetland and riparian habitat, which may include an endowment or other funding from the project applicant.

   iii. For those acres of wetlands or waters of the U.S. lost to development that cannot be replaced on site, the project applicant shall compensate for the loss of wetland habitat through the purchase of mitigation credits at a USACE-approved mitigation bank or otherwise USACE-approved location. The ratio of compensation shall be determined in consultation with the USACE as part of the CWA Section 404 permit process, but shall not be less than 1:1.The project applicant may pay in-lieu fees to the U.S. Army Corps of Engineers (ACOE), CDFW, and Regional Water Quality Control Board according to their established fee structures to compensate for the removal of jurisdictional wetland features within the project area. Additionally, off-site permittee-responsible compensatory mitigation in the form of preservation, creation, enhancement or restoration will be accepted as outlined in the *ACOE Permittee-Responsible Mitigation Guidance May 26, 2016 (Draft)* document.

   iv. Prior to the City issuing a grading permit, the project applicant shall acquire the appropriate CWA Section 404 permit for filling of wetlands and other waters of the U.S. in the project area. In addition to the CWA Section 404 Wetland Fill permit, a CWA Section 401 water quality certification shall also be required in conjunction with the Section 404 permit.

v. For any construction activities affecting the bed, bank, or associated riparian vegetation of any streams or lakes subject to CDFW jurisdiction (such as Markham Ravine and Auburn Ravine), then a Streambed Alteration Agreement shall be obtained from CDFW, pursuant to Section 1600 of the California Fish and Game Code. If required, the project applicant shall coordinate with CDFW in developing appropriate mitigation, and shall abide by the conditions of any executed permits for any work related to on-site streams or associated riparian areas.

MM-BIO-4 ***Native Oak Tree Planting.*** The project applicant shall, to the extent feasible, design the project to retain protected trees and to protect on-site trees during construction activities. If these trees cannot be retained in place, then the project applicant shall compensate for the loss of oaks on the project site based on the fee structure and guidance stated in the City of Lincoln Municipal Code. This may require either a fee payment to the City, or planting/establishment of native oak trees outside of the project area.

MM-BIO-5 ***Location of Construction Activities.*** Wherever feasible, construction and stockpiling of materials shall be located away from Markham and Auburn Ravines, outside of the 100-year floodplain, and other sensitive habitats, as determined by the qualified project biologist. In areas that cannot be feasibly avoided, the project biologist shall monitor the activity on a daily basis to ensure impacts to native wildlife are avoided.

MM BIO-6 ***Rare Plant Surveys and Mitigation.*** The project applicant shall retain a qualified biologist/botanist to conduct protocol-level plant surveys. Suitable habitat may occur on the northerly 72.6 acres of the project site for the following species: dwarf downingia (*Downingia pusilla*), Ahart's dwarf rush (*Juncus leiospermus* var. *ahartii*), Red Bluff dwarf rush (*Juncus leiospermus* var. *leiospermus*), and Legenere (*Legenere limosa*).

The surveys shall be conducted during the appropriate blooming periods (May to November). These plant surveys shall be conducted in accordance with 2009 California Department of Fish and Wildlife (CDFW) rare plant survey protocols. The results of the survey shall be summarized in a report and submitted to CDFW and USFWS, and would be valid for two years.

If rare plants are present and cannot be avoided, the project applicant compensate for the loss of habitat, either on-site or off-site at a minimum of ratio of 1:1. Mitigation for losses could include replacing the amount, type, and value of

habitat lost to project construction through an accredited mitigation bank, if approved by USFWS and CDFW.

MM BIO-7 ***Vernal Pool Crustacean Avoidance and Mitigation***. If suitable habitat for vernal pool crustaceans cannot be avoided during construction activities, the project applicant shall comply with applicable federal ESA regulations for mitigation of vernal pool crustaceans. The project applicant can either assume presence of vernal pool crustaceans within suitable habitat, or can conduct protocol-level surveys for vernal pool invertebrate species. The project applicant shall be responsible for offsetting the loss of any vernal pool crustacean habitat using one of the following methods:

a. If the PCCP has been adopted by the County, the City, and approved by the agencies, the project applicant shall comply with the PCCP and that participation shall satisfy all of the mitigation requirements for this impact.

b. If the PCCP has not been adopted by the County and City and/or has not been approved by the agencies, the extent of any necessary compensatory mitigation shall be determined in consultation with the USFWS, but shall not be less than 1:1. Typically, recommended mitigation for the loss of vernal pool crustacean habitat has been at a ratio of 2:1 acres for preservation and 1:1 acres for creation.

MM BIO-8 ***Western Pond Turtle Avoidance and Relocation.***

a. Prior to any work in suitable habitat, the project applicant/contractor shall arrange for a pre-construction survey for western pond turtles (WPT) to be conducted by a qualified biologist not more than 48 hours prior to the commencement of site disturbance.

b. If WPT are determined to be present within the stream or pond, and the feature is to be retained, exclusionary fencing shall be used to prevent the turtle(s) from entering the construction area. The location of the fence shall be determined by a qualified biologist. Any turtles found in or near the construction zone shall be relocated to an appropriate area of suitable habitat a minimum of 100 feet from any active construction zone. Measures shall be implemented to ensure that the drainages or irrigation pond shall continue to provide adequate habitat for the WPT during and after construction by protecting water quality and ensuring that the reduction of drainage from the project site does not substantially diminish the water levels in the pond.

c. If the stream or irrigation pond cannot be retained, the project applicant shall relocate any WPT found during surveys in a manner developed by a qualified biologist and approved by the CDFW to a suitable body of water in Placer County.

MM BIO-9 ***Nesting Bird Avoidance.***

a. If construction would occur during the bird nesting season (generally March 1-August 30 for the native bird species likely to occur on the project site), a pre-construction nest survey shall be conducted within 14 days prior to the beginning of construction activities by a qualified biologist to identify active nests within 100 feet of construction activities (for songbirds) and within 300 feet for raptors. If active nests are found, a temporary buffer shall be established by a qualified biologist around the nest and all ground-disturbing and other construction-related activities shall be postponed/halted until the nest is vacated and juveniles have fledged and are no longer dependent upon the nest, as determined by the biologist from ongoing monitoring, and there is no evidence of a second attempt at nesting. The no-disturbance buffer shall generally be 100 feet for passerine bird species and 300 feet for raptor species (other than Swainson's hawk; see MM BIO-10) or as otherwise determined by the biologist taking into consideration such factors as topography, the type, duration, and extent of disturbance, and the species of bird potentially affected. The buffer zone shall be delineated by high visibility temporary construction fencing. If no active bird nests are identified within the survey area, no further mitigation would be required.

b. A report shall be submitted to the City of Lincoln, following the completion of the bird nest survey that includes, at a minimum, the following information:

   i. A description of the methodology and results of the survey including dates of field visits, the names of survey personnel (and their qualifications), survey results, and a list of references cited and persons contacted.

   ii. A map showing the location(s) of any protected bird nests observed on the project site.

MM-BIO-10 ***Swainson's Hawk Nest Avoidance and Mitigation.***

a. The project applicant shall retain a qualified biologist to conduct a Swainson's hawk nest survey during the nesting season of the same calendar year that construction is expected to begin, and prior to the issuance of any grading permits. The survey shall be conducted pursuant to timing and methodology criteria outlined in the Swainson's Hawk Technical Advisory Committee 2000

survey protocol which includes all suitable nest habitat within ½ mile of the construction envelope. If this survey does not identify any nesting Swainson's hawk within the survey area, no further mitigation would be required.

b. Should any active Swainson's hawk nests be located within the survey area, no construction activity (e.g., heavy equipment operation associated with construction, human activities, etc.) or other project-related activities that could cause nest abandonment or forced fledging, shall be initiated within 1/4-mile (buffer zone) of an active nest, or as otherwise determined by the biologist taking into consideration such factors as topography, the type, duration, and extent of disturbance, and the age of any young in the nest. Such activity shall be postponed until the nest is vacated and juveniles have fledged and are no longer dependent upon the nest, as determined by the biologist from ongoing monitoring, and there is no evidence of a second attempt at nesting. The buffer zone may be increased if, as determined by the biologist during ongoing nest monitoring, the adult birds exhibit behavior that could lead to unnatural prolonged absences from the nest or nest abandonment. The buffer zone shall be delineated by high visibility temporary construction fencing.

c. Nest trees should not be removed to the extent feasible. If a nest tree must be removed, a Management Authorization (including conditions to off-set the loss of the nest tree) must be obtained from CDFW with the tree removal period specified in the Management Authorization, generally from October 1 to February 1.

MM BIO-11 ***Swainson's Hawk Foraging Habitat Mitigation*****.** The project applicant, in consultation with CDFW, shall mitigate for loss of any Swainson's hawk foraging habitat by one of the following methods:

a. If the PCCP has been adopted by the County, the City, and approved by the agencies, the project applicant shall comply with the PCCP and that participation shall satisfy all of the mitigation requirements for this impact.

b. If the PCCP has not been adopted by the County and City and/or has not been approved by the agencies, the project applicant shall mitigate at a ratio of at least one acre of suitable foraging habitat for every one acre developed by the proposed project. The project applicant shall provide for the long-term endowment of compensatory mitigation lands by funding a management endowment (the interest on which shall be used for managing the mitigation lands) at a per acre rate (adjusted annually for inflation and varying interest rates). The project applicant shall submit a letter of approval from CDFW for the mitigation program for Swainson's impacts to the City of Lincoln prior to the issuance of grading permits. As an alternative, the project applicant may

purchase conservation easements or fee title to suitable Swainson's hawk foraging habitat to protect the habitat from urban development, or purchase Swainson's hawk habitat credits at an agency-approved mitigation bank.

MM-BIO-12 ***Markham and Auburn Ravines***. Markham and Auburn Ravines shall both be avoided during project activities to reduce impacts of noise, light and habitat destruction to wildlife species that regularly use these areas for local migration, cover and foraging. For any work that would involve disturbance of Auburn or Markham Ravine the City shall ensure grading permits and/or improvements plans, as appropriate, include the following requirements:

a. To the extent feasible, the project shall be designed to avoid direct or indirect impacts to Auburn or Markham Ravines, or to the water quality flowing to Auburn or Markham Ravines. If work in Auburn or Markham Ravines cannot be avoided, then the following mitigation measures shall apply.

b. Restrict work in Auburn or Markham Ravines to low-flow periods between June 15 and October 15 to avoid effects on adult or juvenile steelhead and salmon life stages during their migratory seasons.

c. Store all equipment outside of all waterways. Install a silt fence around the perimeter of all waterways where construction is to occur adjacent to waterways. The staging areas shall be situated a minimum of 50 feet from existing drainages.

d. Install Environmentally Sensitive Area (ESA) fences in the vicinity of work along Auburn or Markham Ravines. The ESA fencing shall be delineated on the final plans and the fence shall be installed and remain on-site until the project is completed.

e. Install silt fences and/or fiber rolls on the slopes adjacent to the work area to prevent silt from entering Auburn or Markham Ravines.

f. If dewatering is necessary along portions of Auburn or Markham Ravines, use appropriate temporary coffer dams to dewater the construction sites and divert water through the area during the construction period to prevent impeding creek flow or water flow through the work areas. If dewatering at a site is required, a qualified biologist shall be present during the dewatering period to inspect and ensure that steelhead shall not be trapped within the temporary coffer dams. If steelhead are found, a qualified biologist shall capture and relocate these fish to an appropriate area away from the construction site. The project applicant or their representative shall submit for approval the

dewatering and fish capture and relocation plans to the NOAA and CDFW once the design plans are finalized.

g. Maintain erosion controls during the construction periods.

h. At the completion of the construction project, remove from the streambed all materials used to maintain flow and divert water from the area during the construction period, including coffer dams, pipes, filter fabric, and gravel.

i. Dispose of all excess soil at an approved upland site.

j. Remove all project-introduced material once the work is complete.

k. Recontour any disturbed stream channel areas, to the extent practicable, to pre-project conditions or better.

l. Use reflectors on portable light trees to focus the light on the work area and to minimize the amount of light spilling over to adjacent areas during any night work.

MM BIO-13 ***Wildlife Movement Corridor Protection*****.** To the extent feasible, construction of the project's open space shall be designed to minimize the restriction of wildlife movement through the project area, specifically along and through Markham and Auburn Ravines. This shall include design measures that provide the greatest amount of space feasible underneath bridge or culvert structures such that wildlife species are not forced to cross roadways or move into urban areas to move from one area of natural habitat to another.

All outdoor lighting associated with the project shall be designed to minimize light pollution into the open space or adjoining undeveloped land, except where it is necessary for public safety or security. Minimization measures may include light fixture placement (e.g., as low to the ground as possible), lamp designs (e.g., shielding, low glare, or no lighting), directing light away from open space or undeveloped lands, or other means to avoid or minimize light pollution.

4.4.6 Level of Significance After Mitigation

Implementation of the above mitigation would reduce impacts to special-status species, waters of the United States, and sensitive biological communities to a level that is **less than-significant**. If native nesting birds are located in the project area during project activities, they would be noted by the biological monitor and avoided, reducing impacts to **less than significant**.

4.4.7 Cumulative Analysis

Impact 4.4-7. The effects of the proposed project, when considered with other projects in the region, would result in a cumulative impact to grassland, oak woodland and riparian habitat.

Future development described in the City's General Plan and present and probable future projects in the vicinity, including Village 5 and Independence at Lincoln, combined with the proposed project would contribute to the regional loss of grassland, oak woodland, and riparian habitat, which could affect nesting birds, wintering waterfowl, hydrology related to Auburn Ravine and Markham Ravine, as well as sensitive oak woodland habitats. This cumulative impact is **significant**.

The implementation of Mitigation Measures BIO-1 through BIO-13 would reduce the proposed project's contribution to cumulative impacts to less than considerable. Other projects, including Village 5 and Independence at Lincoln, would be required to mitigate the loss of habitat. This impact would therefore be reduced to **less than significant**, with implementation of feasible mitigation.

4.4.8 References

ACOE (U.S. Army Corps of Engineers). 2016. *Permittee-Responsible Mitigation Guidance (Draft).* May 26, 2016.

Cardno ENTRIX. 2012. *Jurisdictional Delineation Report-Peery Ranch.*

Cardno ENTRIX. 2013. *2012-2013 90-Day Report of Findings Regarding Branchiopod Surveys-Peery Property*

Cardno ENTRIX. 2014. *2013-2014 90-Day Report of Findings Regarding Branchiopod Surveys-Peery Property*

Cardno. 2014. Jurisdictional Delineation Report-Gill Annexation.

Cardno. 2015a. Biological Resources Impact and Mitigation Report. March 12, 2015.

Cardno. 2015b. Arborist Report and Native Oak Tree Inventory-Gill Property. February 5, 2015.

Cardno 2015c. Arborist Report and Native Oak Tree Inventory-Peery Property. January 30, 2015.

City of Lincoln 2008. City of Lincoln General Plan. March 2008.

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4.5 CULTURAL RESOURCES

This section describes the cultural resources present in the project area and discusses applicable federal, state, and regional regulations pertaining to protection of cultural resources. This section evaluates the potential effects on cultural resources associated with development of the SUD-B Northeast Quadrant Specific Plan (proposed project). Prehistoric resources include sites and artifacts associated with the indigenous, non-Euro-American population, generally prior to contact with people of European descent. Historical resources consist of structures, features, artifacts, and sites that date from Euro-American settlement of the region. Paleontological resources are subsurface flora and fauna fossil resources from the Plio-Pleistocene era less than 600,000 years ago.

No comments on cultural resources were received in response to the Notice of Preparation (NOP, see Appendix A). This section is based on reports prepared by Cardno on behalf of the property owners:

- *Cultural Resources Inventory Reports for the Gill Property Project, Lincoln, Placer County, California* (Cardno 2015)
- *Cultural Resources Inventory Report for the Peery Property Project, Lincoln, Placer County, California* (Cardno 2015a)

These reports are included in Appendix D of this EIR. Other sources consulted are listed in Section 4.5.8, References.

4.5.1 Existing Conditions

The project site is located west of the City of Lincoln, California, in the Sacramento River Valley at the base of the Sierra Nevada Foothills. The project site is relatively flat, undeveloped land that consists of disturbed non-native annual grassland with no permanent structures or buildings. Historically, the project area has been used primarily for dry crop farming (i.e., hay) and grazing land. On-site elevation ranges from 107 to 135 feet above mean sea level. Markham Ravine bisects the northern portion of the 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 and various wetlands, including seasonal drainages and other wetland resources, are present throughout the site.

4.5.1.1 Prehistory Background

The project area provided a rich resource base that was exploited by prehistoric and historic Native American populations. The Nisenan or Southern Maidu were the Central California Native American subculture who occupied the project vicinity. Nisenan inhabited the drainages of the Yuba, Bear, and American rivers, and the lower reaches of the Feather River, extending

from the east banks of the Sacramento River on the west to the mid to high elevations of the western flank of the Sierra Nevada (Cardno 2015 citing Wilson and Towne 1978).

The basic social and economic group for the Nisenan was the family or household unit. Politically, the Nisenan were divided into "tribelets," made up of a primary village and a series of outlying hamlets, presided over by a more or less hereditary chief. Tribelet populations of Valley Nisenan were as large as 500 persons (Cardno 2015 citing Wilson and Towne 1982:6), while foothill and mountain tribelets ranged between 100 and 300 persons (Cardno 2015 citing Littlejohn 1928:21; Levy 1978:410). Nisenan tended to stay within their village areas except during the summer season when groups of people would move up into the mountains to hunt and gather (Cardno 2015 citing Littlejohn 1928:24).

Valley Nisenan generally did not range beyond the valley and lower foothills. Conversely, foothill and mountain groups of Nisenan ranged across a rather more extensive area that included jointly shared territory whose entry was subject to traditional understandings of priority of ownership and current relations between the groups (Cardno 2015 citing d'Azevedo 1986:467).

During most of the year, Nisenan generally occupied permanent villages located below about 2,500 feet. The availability of resources influenced the location of Nisenan permanent villages, since they acquired a proportion of their food resources from the general area surrounding them (Cardno 2015 citing Littlejohn 1928; Wilson and Towne 1978). Other essential and critical food resources, however, were obtained during the summertime when groups left, but did not abandon, permanent villages at lower elevations and traveled east into their "mountain territories" following streams and rivers (Cardno 2015 citing Littlejohn 1928:24; Wilson and Towne 1978:389).

4.5.1.2 History of the Project Area

Lincoln was settled in 1859 and named for Charles Lincoln Wilson, who constructed the California Central Railroad through Lincoln in 1861. In 1872, however, the main line of the Central Pacific Railroad bypassed Lincoln. Despite being bypassed by the rail line, Lincoln continued to prosper through the latter decades of the nineteenth century, with a host of extractionary industries leading to continued economic, social, and population growth. By 1880, the town boasted 300 people, an array of civic institutions, and piped town water from the Bear River Ditch Company (Cardno 2015 citing Myer 2002: 62-63; Angel 1882:386).

In 1875, while searching for coal, prospectors found high-quality clay just north of Lincoln. Three Chicago businessmen Charles Gladding, Peter McBean, and George Chambers founded Gladding, McBean and Company, which became one of the most influential clay manufacturers of the West Coast. They manufactured ironstone sewer pipe, chimney tops, fire brick, enamel brick, face brick, clay tile roofing, and their specialty, decorative terra cotta. The company

continuously expanded throughout the nineteenth and early twentieth century, and at its peak employed over 600 people in Lincoln (Cardno 2015 citing Logan 1993). The company remains in operation to the present, and is one of the area's oldest continuously operating industries.

As early as 1880, the area surrounding Lincoln was noted for its agricultural productivity, with heavy cultivation in the periphery of the town that was transported to markets via rail. Crops in the 1850s through 1870s ranged from wheat, barley, wine grapes, hay, and orchard crops. The raising of poultry, sheep, beef and dairy cattle was equally important to Western Placer County growth. The connection to the Central Pacific Railroad allowed the farmers in the region to promote and sell their wares to a vast and growing market that essentially spanned the country.

Development of the project site is consistent with agricultural parcels surrounding Lincoln. Early western Placer County development focused on gold rush activities centered northeast of Lincoln in the Auburn Ravine and east along major river ways in Placer County. Additional flat and foothill lands surrounding Lincoln have always served an agricultural role. In 1861, the General Land Office granted 160-acres, located in southeast portion of the study property, to James Bowers. Bowers received the land as part of the Scrip Warrant Act of 1855 which, awarded veterans land for service rendered. Bowers had served in Captain William's Company of Oregon Volunteers. However, it does not appear that Bowers moved to or improved upon the property.

An 1868 survey map identifies one major road that connects Lincoln to locales west, the road travels through land adjacent to the Gill property. This road linked the agricultural land to Lincoln's greater transportation infrastructure. Starting in the 1870s and continuing through the 1900s grain production became an important industry in the valley regions of western Placer County (Cardno 2015 citing Doolittle 1868: Map; Uren 1887: Map; GLO 1861; Luebking 2006). While research did not reveal what was occurring on the project site during this period, it is likely in this sort of use. It does not appear from research that the property was ever developed with any built environment buildings or structures.

In 1901, over 100,000-acres were devoted to wheat, barley, oat, alfalfa, and hay cultivation in land surrounding Roseville, Lincoln, and Sheridan. In 1913, the average western Placer County valley farm was 1,200-acres and cultivated primarily grains. Such farms include properties southeast of the study parcel that cultivated alfalfa (Cardno 2015 citing Placer Herald 1901; Irrigation Map of Southern and Western Placer County 1919; Sanders 1913: 4-5).

Between 1954 and 1975, aerial imagery and mapping indicates that there was no new development on the project site and little new development around the site, with the land remaining agricultural. While there was little change on the project site since that time, the surrounding area underwent a sustained period of growth, with neighboring Lincoln doubling in size and a host of new industries coming to define the surrounding lands. In 2008, construction

began on the State Route 65 Lincoln Bypass which, was completed in 2012. The highway route bisected the property. At present, the once largely agricultural lands surrounding the study site are ceding to a much more intensely developed suburban settlement pattern, with dense subdivisions and shopping complexes extending west from Lincoln's historic core (Cardno 2015 citing (California Population Census Records; USDA 1954, 1966, 1975; USGS 1910, 1942, 1954; Lincoln Bypass Schedule).

4.5.1.3 Records Search

A formal cultural resources records search was performed for the project site in December 2014. Separate searches were conducted for the Gill and Peery properties at the North Central Information Center (NCIC) in Sacramento, California, with each search covering the parcel and a ¼-mile search radius.

The background literature and document searches identified no previously recorded resources on the project and two previously recorded cultural resources within the ¼-mile record search radius. Fifteen previous cultural resource studies have been conducted within the ¼-mile search radius; three of which include the Gill and/or Peery parcels. These studies consisted of the Historic Property Survey Report of the Proposed Lincoln Bypass of State Route 65 (Berg & McGuire, 1991), A Cultural Resources Inventory Report for the City of Lincoln Waste water Treatment Plant Expansion (Jones & Stokes Associates, Inc., 1999), and A Negative Archaeological Survey Report for the Nelson Lane Bridge Replacement (Westwood, 2012) (Appendix A).

No previously recorded cultural resources were identified within the project site. Two previously recorded cultural resources were identified within the ¼-mile record search radius. P-31-000055 consists of prehistoric mortar bowl fragment. P-31-000059-H consists of a historic-era Ranch Complex with quarried granite, well and tower foundation, wire corral, and lumber loading chute.

4.5.1.4 Tribal Consultation

On December 4, 2014, a sacred lands search request and a request for the Native American contact list for the area was sent to the Native American Heritage Commission (NAHC). On December 11, 2014, the NAHC responded with results from the sacred lands search request. The sacred lands search failed to indicate the presence of Native American cultural resources on the project site or in the vicinity.

Cardno drafted contact letters to all individuals on the contact list provided by the NAHC. On January 5, 2015, letters were mailed to each individual listed on the NAHC contact list. This list of individuals included Nicholas Fonseca, Chairperson for the Shingle Springs Band of Miwok Indians, Hermo Olanio, Vice Chairperson for the Shingle Springs Band of Miwok Indians, Daniel Fonseca, Cultural Resource Director for the Shingle Springs Band of Miwok Indians,

Gene Whitehouse, Chairperson for the United Auburn Indian Community of the Auburn Rancheria, Marcos Guerrero, Tribal Preservation Committee for the United Auburn Indian Community of the Auburn Rancheria, Jason Camp, Tribal Historic Preservation Officer for the United Auburn Indian Community of the Auburn Rancheria, Pamela Cubler of the Colfax-Todds Valley Consolidated Tribe, Judith Marks of the Colfax-Todds Valley Consolidated Tribe, Don Ryberg, Chairperson for the T'si-Akim Maidu, Eileen Moon, Vice Chairperson for the T'si-Akim Maidu, Grayson Coney, Cultural Director for the T'si-Akim Maidu, as well as individuals Rose Enos and April Wallace-Moore. Follow-up phone calls were made to all individuals who received letters on January 23, 2015.

Cardno received a letter of response from Mr. Daniel Fonseca of the Shingle Springs Rancheria dated January 21, 2015. In his letter, Mr. Fonseca indicated that the Shingle Springs Band of Miwok Indians does not have any information regarding cultural resources within the API. Mr. Fonseca requested that Ms. Kara Perry of the Shingle Springs Rancheria be contacted if human remains are encountered during project implementation or if there is any new project information to convey to the tribe.

4.5.1.5 Archaeological Setting

Geologic mapping indicates that the project site is situated on a layer of Plio-Pleistocene nonmarine sediments, with soils consisting of Cometa-Fiddyment complex, San Joaquin-Cometa sandy loam, Ramona sandy loam, Kilaga loam, and Xerofluvent alluvium (State of California Department of Conservation 2010 Geologic Map of California) (SSURGO/STATSGO SoilWeb 2014). Soils which date to the Holocene are more likely to contain evidence of past human activity. The majority of soils within the archaeological area of potential effects (APE) pre-date the Holocene. The exception is the portion of the APE that the Markham Ravine traverses, where frequent flooding deposits recent alluvium. Given these findings, the buried site sensitivity in the project area is low indicating that the potential to encounter archaeological deposits not identified in the course of archaeological survey efforts during ground disturbing activities within the APE is also low.

4.5.1.6 Paleontological Setting

None of the site investigations within the specific plan area have identified paleontological resources. Although, in areas where geological formations are not exposed, paleontological resources would typically not be visible. A Vertebrate Paleontology Records Check was conducted by the Natural History Museum of Los Angeles County for the project site. No vertebrate fossil localities were identified within the project boundary (NHMLAC 2016).

The younger alluvium deposits typically do not contain significant vertebrate fossils, at least in the uppermost layers, and we have no vertebrate fossil localities anywhere nearby from these

deposits. At relatively shallow depth, however, the younger Quaternary alluvium is often underlain by older sedimentary deposits, such as the older Riverbank Formation, that may contain significant fossil vertebrate remains (NHMLAC 2016).

4.5.2 Relevant Plans, Policies, and Ordinances

The treatment of cultural resources is governed by federal, state, and local laws and guidelines. There are specific criteria for determining whether prehistoric and historic sites or objects are significant and/or protected by law. Federal and state significance criteria generally focus on the resource's integrity and uniqueness, its relationship to similar resources, and its potential to contribute important information to scholarly research. Some resources that do not meet federal significance criteria may be considered significant by state criteria. The laws and regulations seek to mitigate impacts on significant prehistoric or historic resources. The federal, state, and local laws and guidelines for protecting historic resources are summarized below.

Federal Regulations

Historical Resources

National Historic Preservation Act

The National Historic Preservation Act of 1966 established the National Register of Historic Places (NRHP) as the official federal list of cultural resources that have been nominated by state offices for their historical significance at the local, state, or national level. Properties listed in the NRHP, or determined eligible for listing, must meet certain criteria for historical significance and possess integrity of form, location, and setting. Under Section 106 of the act and its implementing regulations, federal agencies are required to consider the effects of their actions, or those they fund or permit, on properties that may be eligible for listing or that are listed in the NRHP. The regulations in 36 CFR 60.4 describe the criteria to evaluate cultural resources for inclusion in the NRHP. Properties may be listed in the NRHP if they possess integrity of location, design, setting, materials, workmanship, feeling, and association, and they:

A. Are associated with events that have made a significant contribution to the broad patterns of our history;

B. Are associated with the lives of persons significant in our past;

C. Embody the distinctive characteristics of a type, period, or method of construction, or represent the work of a master, or possess high artistic values, or represent a significant and distinguishable entity whose components may lack individual distinction; or

D. Have yielded, or may be likely to yield, information important in prehistory or history.

These factors are known as "Criteria A, B, C, and D."

In addition, the resource must be at least 50 years old, except in exceptional circumstances. Eligible properties must meet at least one of the criteria and exhibit integrity, which is measured by the degree to which the resource retains its historical properties and conveys its historical character, the degree to which the original fabric has been retained, and the reversibility of the changes to the property. Archaeological sites are generally evaluated under Criterion D, which concerns the potential to yield information important in prehistory or history.

The Section 106 review process is typically undertaken between the U.S. Army Corps of Engineers as part of issuing a Section 404 permit and the State Historic Preservation Officer, involves a four-step procedure:

- Initiate the Section 106 process by establishing the undertaking, developing a plan for public involvement, and identifying other consulting parties.
- Identify historic properties by determining the scope of efforts, identifying cultural resources, and evaluating their eligibility for inclusion in the NRHP.
- Assess adverse effects by applying the criteria of adverse effect on historic properties (resources that are eligible for inclusion in the NRHP).
- Resolve adverse effects by consulting with the State Historic Preservation Officer and other consulting agencies, including the Advisory Council on Historic Preservation, if necessary, to develop an agreement that addresses the treatment of historic properties.

The Department of the Interior has set forth Standards and Guidelines for Archaeology and Historic Preservation. These standards and guidelines are not regulatory and do not set or interpret agency policy. A project that follows the standards and guidelines generally shall be considered mitigated to a less than significant level, according to Section 15064.5(b)(3) of the California Environmental Quality Act (CEQA) Guidelines (14 CCR 15000 et seq.). Because it is not a federal agency, the City of Lincoln is not subject to the National Historical Preservation Act, including section 106.

Paleontological Resources

The Paleontological Resources Protection Act (PRPA) of 2009 requires the Secretaries of the Interior and Agriculture to manage and protect paleontological resources on federal land. The Federal Highway Act of 1935 (20 United State Code [USC] 78) addresses paleontological resources. Section 305 of the Act (20 USC 78, 78a) gives authority to use federal funds to salvage archaeological and paleontological sites that are impacted by highway projects. Although there are several other laws and regulations that address paleontological resources either directly or indirectly, such as the Antiquities Act of 1906 (16 USC 431-433), Archeological and

Paleontological Salvage (23 USC 305), and the National Environmental Policy Act of 1969 (42 USC 138; 49 USC 1653).

State Regulations

Historical and Archaeological Resources and Human Remains

California Environmental Quality Act

Under CEQA, public agencies must consider the effects of their actions on both "historical resources" and "unique archaeological resources." Pursuant to California Public Resources Code (PRC) Section 21084.1, a "project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment." PRC 21083.2 requires agencies to determine whether proposed projects would have effects on "unique archaeological resources."

"Historical resource" is a term of art with a defined statutory meaning (see PRC 21084.1 and CEQA Guidelines, Sections 15064.5(a) and 15064.5(b)). The term embraces any resource listed in or determined to be eligible for listing in the California Register of Historical Resources (CRHR). The CRHR includes resources listed in or formally determined eligible for listing in the NRHP, as well as some California State Landmarks and Points of Historical Interest.

Properties of local significance that have been designated under a local preservation ordinance (local landmarks or landmark districts) or that have been identified in a local historical resources inventory may be eligible for listing in the CRHR and are presumed to be "historical resources" for purposes of CEQA unless a preponderance of evidence indicates otherwise (PRC 5024.1 and 14 CCR 4850). Unless a resource listed in a survey has been demolished or has lost substantial integrity, or there is a preponderance of evidence indicating that it is otherwise not eligible for listing, a lead agency should consider the resource potentially eligible for the CRHR.

In addition to assessing whether historical resources potentially impacted by a proposed project are listed or have been identified in a survey process, lead agencies have a responsibility to evaluate them against the CRHR criteria prior to making a finding as to a proposed project's impacts to historical resources (PRC 21084.1 and CEQA Guidelines, Section 15064.5(a)(3)). In general, a historical resource, under this approach, is defined as any object, building, structure, site, area, place, record, or manuscript that:

A. Is historically or archaeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, or cultural annals of California; and

B. Meets any of the following criteria:

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
2. Is associated with the lives of persons important in our past;
3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
4. Has yielded, or may be likely to yield, information important in prehistory or history (CEQA Guidelines, Section 15064.5(a)(3)).

These factors are known as "Criteria 1, 2, 3, and 4" and parallel Criteria A, B, C, and D under the National Historic Preservation Act. The fact that a resource is not listed or determined to be eligible for listing does not preclude a lead agency from determining that it may be a historical resource (PRC 21084.1 and CEQA Guidelines, Section 15064.5(a)(4)).

CEQA also distinguishes between two classes of archaeological resources: archaeological sites that meet the definition of a historical resource, as described above, and "unique archaeological resources." Under CEQA, an archaeological resource is considered "unique" if it:

- Contains information needed to answer important scientific research questions and there is a demonstrable public interest in that information;
- Has a special and particular quality such as being the oldest of its type or the best available example of its type; or
- Is directly associated with a scientifically recognized important prehistoric or historic event or person (PRC 21083.2(g)).

CEQA states that if a proposed project would result in an impact that might cause a substantial adverse change in the significance of a historical resource, then an EIR must be prepared and mitigation measures and alternatives must be considered. A "substantial adverse change" in the significance of a historical resource means physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of a historical resource would be materially impaired (CEQA Guidelines Section 15064.5(b)(1)).

The CEQA Guidelines (Section 15064.5(c)) also provide specific guidance on the treatment of archaeological resources, depending on whether they meet the definition of a historical resource or a unique archaeological resource. If the site meets the definition of a unique archaeological resource, it must be treated in accordance with the provisions of PRC 21083.2.

CEQA Guidelines section 15126.4(b) sets forth principles relevant to means of mitigating impacts on historical resources. It provides as follows:

(1) Where maintenance, repair, stabilization, rehabilitation, restoration, preservation, conservation or reconstruction of the historical resource will be conducted in a manner consistent with the Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings (1995), Weeks and Grimmer, the project's impact on the historical resource shall generally be considered mitigated below a level of significance and thus is not significant.

(2) In some circumstances, documentation of an historical resource, by way of historic narrative, photographs or architectural drawings, as mitigation for the effects of demolition of the resource will not mitigate the effects to a point where clearly no significant effect on the environment would occur.

(3) Public agencies should, whenever feasible, seek to avoid damaging effects on any historical resource of an archaeological nature. The following factors shall be considered and discussed in an EIR for a project involving such an archaeological site:

(A) Preservation in place is the preferred manner of mitigating impacts to archaeological sites. Preservation in place maintains the relationship between artifacts and the archaeological context. Preservation may also avoid conflict with religious or cultural values of groups associated with the site.

(B) Preservation in place may be accomplished by, but is not limited to, the following:

1. Planning construction to avoid archaeological sites;
2. Incorporation of sites within parks, greenspace, or other open space;
3. Covering the archaeological sites with a layer of chemically stable soil before building tennis courts, parking lots, or similar facilities on the site.
4. Deeding the site into a permanent conservation easement.

(C) When data recovery through excavation is the only feasible mitigation, a data recovery plan, which makes provision for adequately recovering the scientifically consequential information from and about the historical resource, shall be prepared and adopted prior to any excavation being undertaken. Such studies shall be deposited with the California Historical Resources Regional Information Center. Archaeological sites known to contain human remains shall be treated in accordance with the provisions of

Section 7050.5 Health and Safety Code. If an artifact must be removed during project excavation or testing, curation may be an appropriate mitigation.

(D) Data recovery shall not be required for an historical resource if the lead agency determines that testing or studies already completed have adequately recovered the scientifically consequential information from and about the archaeological or historical resource, provided that the determination is documented in the EIR and that the studies are deposited with the California Historical Resources Regional Information Center.

CEQA and the California Public Records Act restrict the amount of information regarding cultural resources that can be disclosed in an EIR in order to avoid the possibility that such resources could be subject to vandalism or other damage (*Clover Valley Foundation v. City of Rocklin* (2011) 197 Cal.App.4th 200, 219). The State CEQA Guidelines prohibit an EIR from including "information about the location of archaeological sites and sacred lands, or any other information that is subject to the disclosure restrictions of Section 6254 of the Government Code [(part of the California Public Records Act)]." (State CEQA Guidelines, § 15120, subd. (d)). In turn, California Government Code section 2654 of the California Public Records Act lists as exempt from public disclosure any records "of Native American graves, cemeteries, and sacred places and records of Native American places, features, and objects described in Sections 5097.9 and 5097.933 of the [California] Public Resources Code maintained by, or in the possession of, the Native American Heritage Commission, another state agency, or a local agency." (Cal. Gov. Code, § 6254, subd. (r)).

Public Resources Code sections 5097.9 and 5097.993 list the Native American places, features, and objects, the records of which are not to be publically disclosed under the California Public Records Act: "any Native American sanctified cemetery, places of worship, religious or ceremonial site, or sacred shrine located on public property (§ 5097.9) and any "Native American historic, cultural, or sacred site, that is listed or may be eligible for listing in the California Register of Historic Resources…, including any historic or prehistoric ruins, any burial ground, any archaeological or historic site, any inscriptions made by Native Americans at such a site, any archaeological or historic Native American rock art, or any archaeological or historic feature of a Native American historic, cultural, or sacred site …" (§5097.993, subd. (a)(1)).

The Public Resources Act also generally prohibits disclosure of archaeological records. Government Code section 6254.10 provides: "Nothing in [the California Public Records Act] requires disclosure of records that relate to archaeological site information and reports maintained by, or in the possession of … a local agency, including the records that the agency obtains through a consultation process between a California Native American tribe and a state or local agency."

CEQA Guidelines, Section 15064.5(e), require that excavation activities be stopped whenever human remains are uncovered and that the county coroner be called in to assess the remains. If the county coroner determines that the remains are those of Native Americans, the Native American Heritage Commission must be contacted within 24 hours. At that time, the lead agency must consult with the appropriate Native Americans, if any, as identified in a timely manner by the Native American Heritage Commission. Section 15064.5 of the CEQA Guidelines directs the lead agency (or applicant), under certain circumstances, to develop an agreement with the Native Americans for the treatment and disposition of the remains.

Senate Bill 297

This law addresses the disposition of Native American burials in archaeological sites and protects such remains from disturbance, vandalism, or inadvertent destruction; establishes procedures to be implemented if Native American skeletal remains are discovered during construction; and establishes the Native American Heritage Commission to resolve disputes regarding the disposition of such remains (SB 297). It has been incorporated into Section 15064.5(e) of the CEQA Guidelines.

Senate Bill 18

Senate Bill (SB) 18 requires local governments to consult with tribes prior to making certain planning decisions and to provide notice to tribes at certain key points in the planning process. These consultation and notice requirements apply to adoption and amendment of both general plans (defined in Government Code §65300 et seq.) and specific plans (defined in Government Code §65450 et seq.). Although SB 18 does not specifically mention consultation or notice requirements for adoption or amendment of specific plans, existing state planning law requires local governments to use the same processes for adoption and amendment of specific plans as for general plans (see Government Code §65453). Therefore, where SB 18 requires consultation and/or notice for a general plan adoption or amendment, the requirement extends also to a specific plan adoption or amendment. As the proposed project includes both a general plan amendment and the adoption of a specific plan, the City of Lincoln initiated consultation under SB 18 in November 2015.

Assembly Bill 52

Assembly Bill (AB) 52 requires consultation with Native American tribes traditionally and culturally affiliated with the geographic area in which a project requiring CEQA review is proposed if those tribes have requested to be informed of such proposed projects. The intention of such consultation is to avoid adverse impacts to tribal cultural resources. This law is in addition to existing legislature protecting archaeological resources associated with California Native American tribes. AB 52 applies to all projects initiating environmental review in or after

July 2015. Because the proposed project began the environmental review process prior to July 2015, AB 52 does not apply. However, as discussed previously, tribal outreach occurred during both the preparation of the cultural resources inventory, and again pursuant to SB 18.

California Health and Safety Code

Section 7050.5(b) of the California Health and Safety Code specifies protocols to address any human remains that may be discovered. The code states:

> In the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the coroner of the county in which the human remains are discovered has determined, in accordance with Chapter 10 (commencing with section 27460) of Part 3 of Division 2 of Title 3 of the Government Code, that the remains are not subject to the provisions of section 27492 of the Government Code or any other related provisions of law concerning investigation of the circumstances, manner and cause of death, and the recommendations concerning treatment and disposition of the human remains have been made to the person responsible for the excavation, or to his or her authorized representative, in the manner provided in section 5097.98 of the Public Resources Code.

Paleontological Resources

Paleontological resources are afforded consideration under CEQA. Appendix G of the CEQA Guidelines (Title 14, Division 6, Chapter 3, California Code of Regulations: 15000 et seq.) includes as one of the questions to be answered in the Environmental Checklist (Appendix G, Section V, Part c) the following: "Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?" Public Resources Code (PRC) Section 5097.5 specifies that any unauthorized removal of paleontological remains is a misdemeanor. Further, the California Penal Code Section 622.5 sets the penalties for damage to or removal of paleontological resources.

California Environmental Quality Act

Under CEQA, state and public agencies are required to investigate mitigation measures that would reduce significant environmental effects of proposed projects. If paleontological resources are identified during an environmental assessment of a project, then the sponsoring agency must take the resources into consideration when evaluating project effects.

Public Resources Code Section 5097.5

Section 5097.5 of the California Public Code Section protects historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological sites, or any other archaeological, paleontological, or historical feature that is situated on land owned by, or in the jurisdiction of, the State of California, or any city, county, district, authority, or public corporation, or any agency thereof.

Local

City of Lincoln General Plan

The Open Space and Conservation Element of the Lincoln General Plan provides objectives, policies, and programs regarding cultural resources, including the following:

Goal OC-6 To preserve and protect existing archaeological, historical, and paleontological resources for their cultural values.

Policy OSC-6.1 Evaluation of Historic Resources: The City shall use appropriate State and Federal Standards in evaluating the significance of historical resources that are identified in the City.

Policy OSC-6.2 Historic Structures and Sites: The City shall support public and private efforts to preserve, rehabilitate, and continue the use of historic structures, sites, and districts. Where applicable, preservation efforts shall conform to the current Secretary of the Interior's Standards for the Treatment of Historic Properties and Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Building.

Policy OSC-6.3 Archaeological Resources: The City shall support efforts to protect and/or recover archaeological resources.

Policy OSC-6.4 Historical Resources Inventory: The City shall prepare a historical resources inventory and use State and Federal Standards in evaluating historical resources for their significance.

Policy OSC-6.5 Mitigation Monitoring for Historical Resources: The City shall develop standards for monitoring of mitigation measures established for the protection of historical resources prior to development.

Policy OSC-6.6 State Historic Building Code: The City shall establish construction standards for the protection of historic resources during development and use the State Historic Building Code for designated properties.

Policy OSC-6.7 Discovery of Archaeological/Paleontological Resources: In the event that archaeological/paleontological resources are discovered during ground disturbing activities, the City shall required 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 archeologist/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.

Policy OSC-6.8 Archaeological Resource Surveys: 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.

Policy OSC-6.9 Native American Resources: 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 identify locations of importance to Native Americans, including archeological sites and traditional cultural properties. Coordination with the Native American Heritage Commission should begin at the onset of the review of a proposed project.

Policy OSC-6.10 Discovery of Human Remains: 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 descendent (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.

C. The County has notified the United Auburn Indian Community (UAIC) Tribal Council and solicited their input.

4.5.3 Thresholds of Significance

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

1. Cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5.
2. Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5.
3. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.
4. Disturb any human remains, including those interred outside of formal cemeteries.

4.5.4 Impacts Analysis

4.5.4.1 Methods of Analysis

Cultural resources inventory reports have been prepared for the two properties, the Gill property and the Peery property, that comprise the project site (see Appendix D). The inventory included a review of the records searches provided by the NCIS, a review of geotechnical and geologic information, Native American coordination, historic research, and a pedestrian survey of the site. No previously recorded cultural resources were identified on the project site. Two resources were identified within ¼ mile of the site (see Section 4.5.1.3). Cardno field personnel conducted a reconnaissance level survey of 100% of the APE on December 29 and 30, 2014. A crew of two surveyed east/west trending transects at an interval not exceeding 15 meters across the APE. No new cultural resources were encountered during the pedestrian survey.

4.5.4.2 Analysis

Impact 4.5-1. The project would not cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5.

The background literature and document search identified no previously recorded resources within the project area, either on the Gill property or the Peery property. Two cultural resources were identified within the ¼-mile records search radius. These resources would not be affected by the proposed project. Surveys conducted as part of the cultural resources inventory did not identify any potentially historic resources on the project site. The project impact to historical resources would be **less than significant**.

Impact 4.5-2. The project could cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5.

Neither records searches nor the pedestrian survey found evidence of archaeological resources. Geologic mapping indicates that the project site is situated on a layer of Plio-Pleistocene nonmarine sediments, with soils consisting of Cometa-Fiddyment complex, San Joaquin-Cometa sandy loam, Ramona sandy loam, Kilaga loam, and Xerofluvent alluvium. Soils which date to the Holocene are more likely to contain evidence of past human activity. The majority of soils within the APE pre-date the Holocene. The exception is the portion of the APE that the Markham Ravine traverses, where frequent flooding deposits recent alluvium. Given these findings, the buried site sensitivity in the project area is low indicating that the potential to encounter archaeological deposits not identified in the course of archaeological survey efforts during ground disturbing activities within the APE is also low.

While no resources were identified during the records search or pedestrian survey, it is always possible to inadvertently uncover additional cultural resources during ground disturbing project activity. The following ground disturbance activities will occur within the project site: grading to facilitate development, and excavation for utilities. An inadvertent archaeological discovery would be **potentially significant**. Therefore, if any cultural resources are uncovered during ground disturbance, all work must stop in the vicinity of the resource and a qualified archaeologist shall be notified immediately, per Mitigation Measure CUL-1.

Impact 4.5-3. Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

As discussed in Section 4.5.1.6, no paleontological records or sites have been identified on the project site. No unique geologic features have been identified through investigation of the geology and soils (see Section 4.6), or the archaeological and paleontological research. However, deeper project excavations (such as utility main lines, or footings for commercial structures) that penetrate the deeper sediment layers could result encounter significant vertebrate fossils. An inadvertent paleontological discovery would be **potentially significant**. Therefore, if any paleontological resources, such as vertebrate fossils, are uncovered during ground disturbance, all work must stop in the vicinity of the resource and a qualified paleontologist shall be notified immediately, per Mitigation Measure CUL-1.

Impact 4.5-4. Would the project disturb any human remains, including those interred outside of formal cemeteries?

No previously identified human remains were identified during the records search or Native American consultation. The pedestrian survey also found no indication of human remains. Nevertheless, it is possible to inadvertently uncover human remains during ground disturbing project activity, such as grading and excavation. An inadvertent discovery would be a **potentially significant** impact. Therefore, if any human remains are uncovered during ground disturbance, all work must stop in the vicinity of the resource and the Placer County Coroner shall be notified immediately, per Mitigation Measure CUL-2.

4.5.5 Mitigation Measures

No historical or unique archaeological resources have been identified on the project site. The following mitigation measures would reduce the potential for impacts on previously unidentified cultural resources or human remains.

MM-CUL-1 **Discovery of Archaeological / Paleontological Resources:** In the event that archaeological / paleontological resources are discovered during ground disturbing activities, 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 applicant shall immediately notify the City of Lincoln Community Development Director, who will coordinate investigation of the site with a qualified archaeologist or paleontologist as needed to assess the resource (i.e., whether it is a "historical resource", a "unique archaeological resource", or "unique paleontological resource") and provide proper management recommendations should potential impacts to the resource be found to be significant. Possible management recommendations for historical or unique archaeological/paleontological resources could include resource avoidance or, where avoidance is infeasible in light of the project or is unnecessary to avoid significant effects, data recovery excavations. In consultation with the qualified staff, the contractor shall implement any measures deemed by the Community Development Director to be necessary and feasible to avoid or minimize significant effects to the resource.

MM-CUL-2 **Accidental Discovery of Human Remains.** Pursuant to Section 5097.98 of the California Public Resources Code and Section 7050.5 of the California Health and Safety Code, as well as California Environmental Quality Act Guidelines Section 15064.5(e), in the event of the discovery of human remains, work shall be suspended within 100 feet of the find, and the Placer County Coroner/Sherriff and the City of Lincoln Community Development Director shall be immediately notified. The County Coroner/Sherriff will determine if an investigation is necessary. If the remains are determined to be Native American:

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 descendent (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.

If the Native American Heritage Commission is unable to identify a descendant or the descendant failed to make a recommendation within 24 hours after being notified by the commission, the City and/or County will notify the United Auburn Indian Community (UAIC) Tribal Council and solicit their input prior to allowing work to resume.

4.5.6 Level of Significance After Mitigation

Implementation of the above mitigation measures would reduce potential impacts to **less-than-significant levels.**

4.5.7 Cumulative Analysis

The geographic scope of the cumulative impact analysis for the evaluation of potential cumulative impacts on cultural resources is the City of Lincoln and western Placer County (the area which reasonably relates to the historical development of the City and exceeds the normal survey area for an archaeological records search).

Both subsurface prehistoric and historical resources are expected to be confined to the territory of the Nisenan, which includes the drainages of the Bear, American, Yuba, and Southern Feather rivers. Historic resources and prehistoric sites have been recorded in the vicinity of Roseville and could occur elsewhere in south Placer County. Development in the region could result in the damage or destruction of known and unknown archaeological and historical resources, as well as any existing undiscovered subsurface artifacts. The cumulative impact from past, present, and probable future projects, as well as the proposed project, is potentially significant.

The vicinity of Roseville is known to include both prehistoric and historical cultural resources. The project site is located within the NCRSP area. The NCRSP EIR concluded that none of the identified prehistoric and historic sites subject to disturbance during buildout of the NCRSP would be considered significant according to state or federal standards. However, the inadvertent destruction of resources during site preparation and construction of the proposed project, if not properly treated, would result in the project incrementally contributing to a significant cumulative impact.

Numerous laws, regulations, and statutes, on both the federal and state levels, seek to protect cultural resources. These would apply to development within and outside the city. In addition, the Roseville General Plan provides local policies that safeguard cultural resources from unnecessary impacts. These policies include inventory and evaluation processes and require consultation with qualified archaeologists in the event that previously undiscovered cultural materials are accidentally exposed.

Because the project site contains a moderate likelihood for the discovery of unknown subsurface historical or prehistoric resources, the project's contribution to the cumulative loss of cultural resources is considered potentially significant.

While other development throughout south Placer County could encounter paleontological resources, such discoveries are unlikely in the NCRSP plan area as most parcels have been built out and known resources documented. It is highly unlikely that development of the proposed

project site would result in the discovery of paleontological resources, as discussed above, and the cumulative impact of past, present, and probable future projects, as well as the proposed project, are **less than significant**.

4.5.8 References

Cardno 2015. Cultural Resources Inventory Reports for the Gill Property Project, Lincoln, Placer County, California. Prepared by Cardno. February 3, 2015.

Cardno 2015a. Cultural Resources Inventory Report for the Peery Property Project, Lincoln, Placer County, California. Prepared by Cardno. February 3, 2015.

NHMLAC 2016. Natural History Museum of Los Angeles County. Vertebrate Paleontology Records Check for paleontological resources for the proposed SUD-B Northeast Quadrant Specific Plan Project, in the City of Lincoln, Placer County, project area. March 8, 2016.

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4.6 GEOLOGY AND SOILS

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

There were no comments received in response to the Notice of Preparation (NOP, see Appendix A) regarding impacts associated with geology and soils.

Information contained in this section is based in part on geotechnical engineering investigations of the project area prepared by MatriScope Engineering Laboratories, Inc. (2015a and 2015b). The geographic boundary of the geotechnical investigation covers the northern and western portion of the proposed project area only. Since site topography, land cover and geology are relatively uniform across the whole project site, the description of site conditions are expected to likewise apply to the rest of the SUD-B Northeast Quadrant Specific Plan area. Other documentation used to supplement the geotechnical investigation includes published soil surveys, geologic hazard maps, and other information and reports available through the U.S. Geological Survey (USGS), the California Geological Survey (CGS), the U.S. Department of Agriculture (USDA) and City and County general plan documents. Other sources consulted are listed in Section 4.6.8, References.

4.6.1 Existing Conditions

The Project area is located in the northeastern portion of the Great Valley Geomorphic Province. The Great Valley is an alluvial plain about 50 miles wide and 400 miles long in the central part of California. The northern portion of the Great Valley is the Sacramento Valley, which is drained by the Sacramento River (CGS 2002). Elevations within the project boundaries are relatively flat and vary between 105 and 135 feet above sea level (USGS 2016). Variations in topography are primarily a result of two on-site ravines—Markham Ravine to the north, and Auburn Ravine to the south—which are incised 10 to 15 feet into the surrounding topography. Otherwise, the site is nearly flat-lying at an elevation of 150 feet (+/- 10 feet).

4.6.1.1 Local Geology

The project site is located within the Riverbank Formation (lower and middle units) and the Mehrten Formation geologic units (USGS 1979). The Riverbank Formation consists of mainly unconsolidated alluvium extending several hundreds of feet in depth and is considered a well-developed water-bearing unit (City of Lincoln 2008c). The Mehrten formation is comprised of conglomerate and tuffaceous sandstone and siltstone derived from andesitic sources. Some areas

within the formation also contain andesitic mudflow breccia rocks approximately 200 feet below the ground surface (City of Lincoln 2008c).

4.6.1.2 Soils

Overlying the geologic units described above (aside from rock outcrops and portions of active floodplains) is a mantle of soil that varies in thickness and character. In general, soil characteristics are strongly governed by slope, relief, climate, vegetation, and the geologic unit upon which they form. Soil types are important in describing engineering constrains such as erosion and runoff potential, corrosion risks, and various behaviors that affect structures, such as expansion and settlement.

Table 4.6-1 lists the soil units mapped on the proposed Lincoln SUD-B Northeast Quadrant project site, and their key physical characteristics. Soils at the proposed project site include primarily sandy and silty clay with interbedded clayey sand, silty sand and sand layers. On-site soils range from poorly-drained to well-drained. Generally, soils that are or have been in agricultural use have been disturbed, reworked, or amended within several feet of the surface. As such, naturally developed soil horizons have likely been removed and the whole soil has likely been altered to some degree through application of fertilizer and repeated plowing and irrigation. Common soil issues and their relevance to the Project area are briefly discussed below.

Table 4.6-1
Soil Types Underlying the Project Site

Soil Type	Major Soil Components	Drainage Class	Shrink/ Swell Potential	Risk of Corrosion[a] (concrete / uncoated steel)	Hydrologic Soil Group[b] / Erosion Factor (Kf)[c]
Alamo-Fiddyment complex	Alamo	Poorly Drained	High	Low / High	D / 0.24
	Fiddyment	Well Drained	Low	Low / Low	C / 0.37
Cometa sandy loam	Cometa	Well Drained	Low	Low / Moderate	D / 0.32
Cometa-Fiddyment complex	Cometa	Well Drained	Low	Low / Moderate	D / 0.32
	Fiddyment	Well Drained	Moderate	Moderate / Low	D / 0.49
Cometa-Ramona sandy loams	Cometa	Well Drained	Low	Low / Moderate	D / 0.32
	Ramona	Well Drained	Low	Low / Low	C / 0.32
Kilaga loam	Kilaga	Well Drained	Moderate	Low / Moderate	C / 0.37
Ramona sandy loam	Ramona	Well Drained	Moderate	Low / Low	C / 0.32
San Joaquin-Cometa sandy loams	San Joaquin	Well Drained	High	Low / High	D / 0.32
	Cometa	Well Drained	Low	Low / Moderate	D / 0.32

Table 4.6-1
Soil Types Underlying the Project Site

Soil Type	Major Soil Components	Drainage Class	Shrink/ Swell Potential	Risk of Corrosion[a] (concrete / uncoated steel)	Hydrologic Soil Group[b] / Erosion Factor (Kf)[c]
Xerofluvents, occasionally flooded	Xerofluvents, occasionally flooded	Moderately Well Drained	Moderate	Low / High	A / 0.32
Xerofluvents, frequently flooded	Xerofluvents, frequently flooded	Somewhat Poorly Drained	Moderate	Low / High	B / 0.32

[a] "Risk of corrosion" pertains to potential soil-induced electrochemical or chemical action that corrodes or weakens uncoated steel or concrete.

[b] Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups (A through D) according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms. Soils in Group B have a moderate infiltration rate and a moderate rate of water transmission. Soils in Group C have a slow infiltration and transmission rates and consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. Soils in Group D have high runoff potential when thoroughly wet. Water movement through the soil is restricted or very restricted.

[c] Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water.

Source: NRCS, 2015

Accelerated Erosion

Erosion is the displacement of solids (soil, mud, rock, and other particles) by wind, water, or ice and by downward or down-slope movement in response to gravity. Generally, the Project area is underlain by well-drained soils on a flat to low-gradient land surface. As a result, the potential for substantial and accelerated erosion is low. Soils in hydrologic group D (see Table 4.6-1) have high runoff potential when thoroughly wet, usually because some restricting layer (e.g., bedrock or impermeable soil horizon) impedes the downward movement of water within the soil profile. In addition, if the soil has a high erosion factor, runoff could remove substantial quantities of soil and lead to the formation of rills or gullies in the landscape. Areas within the project site underlain by the Alamo-Fiddyment complex, Cometa Sandy Loam, Cometa-Fiddyment Complex, Cometa-Ramona sandy loams, and San Joaquin-Cometa sandy loams may have a higher potential for soil loss from erosion relative to other soils in the Project area due to their high erosion factor and/or runoff potential. While runoff and erosion behavior can be estimated from the mapped soil series, actual susceptibility to erosion would vary by location and is based on factors other than the soil unit, including slope, vegetation, and human disturbances (such as agricultural practices). The possibility of substantial and accelerated erosion is further discussed in Section 4.6.4, Impacts Analysis.

Expansive Soils

Expansive soils contain significant amounts of clay particles that have the ability to give up water (shrink) or take on water (swell). They are generally found in areas that were historically a

flood plain or lake area, but they can also occur in hillside areas. When these soils swell, the change in volume can exert significant pressures on loads that are placed on them, such as buildings or underground utilities, and can result in structural distress and/or damage. If dried out, the soil will contract, often leaving fissures or cracks. Excessive drying and wetting of the soil can progressively deteriorate structures over the years by leading to differential settlement beneath or within buildings and other improvements. Table 4.6-1 provides an estimate of the shrink/swell potential of soils within the Project area. While no soils were identified as having the highest shrink/swell category ("very high"), the Alamo-Fiddyment complex and San Joaquin-Cometa sandy loams, which are located in the southwestern portion of the project site, are estimated to have a high shrink/swell potential. Structures within soils with a moderate to high shrink/swell potential may require special design.

While the shrink/swell behavior of soils can be estimated from the mapped soil series, the actual presence or absence of expansive soils can only be determined by field exploration of the Project site and laboratory testing of soils. Based on the preliminary geotechnical investigation at the substation site, the underlying soils in the southwestern portion of the project site were found to have a medium expansion potential (MatriScope 2015). The possibility of expansive soils is further discussed in Section 4.6.4, Impacts Analysis.

Corrosive Soils

The corrosivity of soils is commonly related to several key parameters, including soil resistivity, the presence of chlorides and sulfates, oxygen content, and pH. Typically, the most corrosive soils are those with the lowest pH and highest concentration of chlorides and sulfates. Wet/dry conditions can result in a concentration of chlorides and sulfates as well as movement in the soil, both of which tend to break down the protective corrosion films and coatings on the surfaces of building materials. High-sulfate soils are corrosive to concrete and may prevent complete curing, reducing its strength considerably. Low-pH and/or low-resistivity soils can corrode buried or partially buried metal structures. Depending on the degree of corrosivity of the subsurface soils, concrete, reinforcing steel, and bare metal structures exposed to these soils can deteriorate, eventually leading to structural failures. As shown in Table 4.6-1, both uncoated steel and concrete are susceptible to corrosion in a number of the soils present in the disturbance areas.

While the corrosion potential of soils can be estimated from the mapped soil series, the actual presence or absence of corrosive soils can only be determined by field exploration of the Project site and laboratory testing of soils. Based on the preliminary geotechnical investigation at the proposed substation site, soils are not expected to be corrosive to buried metallic improvements or concrete (MatriScope 2015). The potential for and effects of corrosive soils is further discussed in Section 4.6.4, Impacts Analysis.

4.6.1.3 Faults and Seismicity

The project site is susceptible to regional seismic activity. The project site is located approximately 80 miles east of the Bay Area and lies within Seismic Risk Zone 3. Earthquakes within Seismic Risk Zone 3 typically result in less severe ground-shaking and earthquake-related damage than those occurring within Seismic Risk Zone 4 (such as the Bay Area) (City of Lincoln 2006). The project site is not located within an Alquist-Priolo fault zone (CGS 2015).

The nearest fault system to the project site is the Foothills Fault System, located approximately 10 miles to the northeast (USGS 2015). The Foothills Fault System is classified as a Late Quaternary system, with displacement occurring within the last 700,000 years (CGS 2010). No active fault zones are present within 1 mile of the substation site.

4.6.1.4 Geologic and Seismic Hazards

Fault Rupture

The Alquist Priolo Earthquake Fault Zoning Act was passed in 1972 to mitigate the hazard of surface faulting to structures for human occupancy. In accordance with this act, the state geologist established regulatory zones, called "earthquake fault zones," around the surface traces of active faults and published maps showing these zones. Each earthquake fault zone extends approximately 200 to 500 feet on either side of the mapped fault trace, because many active faults are complex and consist of more than one branch. A review of the Alquist-Priolo (AP) Earthquake Fault maps (CGS 2015) shows that no element of the Project would be located within a currently established AP fault zone. The closest AP fault zone is the Bear Mountain Fault Zone (CDMG 1983), located approximately 40 miles north of the project site. There is little to no likelihood for fault rupture at the project site because the project site would not cross an AP fault zone or other active or potentially active fault line (CDMG 1983, CGS 2015).

Seismic Ground Shaking

The primary tool that seismologists use to evaluate ground shaking hazard and characterize statewide earthquake risks is a probabilistic seismic hazard assessment (PSHA). The PSHA for the State of California takes into consideration the range of possible earthquake sources and estimates their characteristic magnitudes to generate a probability map for ground shaking. The PSHA maps depict values of peak ground acceleration (PGA) that have a 10% probability of being exceeded in 50 years (or a 1 in 475 chance). This probability level allows engineers to design structures for ground motions that have a 90% chance of not occurring in the next 50 years, making structures safer than if they were simply designed for the most likely events.

Based on the California Geological Survey's Probabilistic Seismic Hazards Mapping Ground Motion Page, there is a 10% probability (1 in 475 chance) of earthquake ground motion exceeding 0.15 g at the project site over a 50-year period (CGS 2008a). Consistent with this value, the City of Lincoln General Plan Background Report estimates earthquake ground motions as ranging between 0.1 and 0.3 g within the Lincoln area (City of Lincoln 2008c). Generally, these ground accelerations correspond to lower ground shaking levels that would typically damage only weaker masonry structures not built according to modern seismic building codes. Soils within the project area, as described below, have a low potential for liquefaction or seismically induced landslides. Though the risk of seismic damage at the project site is low, damage would be reduced or avoided in buildings designed and constructed according to current engineering standards of care and the California Building Code (described in the regulatory setting below).

Landslides

The project site and surroundings are flat, with gentle changes in elevation to Auburn and Markham Ravines. CGS classifies the project area as having little to no susceptibility to landslides based on regional estimates of rock strength and steepness of slopes (CGS 2011). The project site would not be susceptible to landslides.

Liquefaction

Liquefaction is a soil condition in which earthquake-induced ground motion causes an increase in soil water pressure in saturated, loose, sandy soils, resulting in loss of soil shear strength. Liquefaction can lead to near-surface ground failure, which may result in loss of foundation support and/or differential ground settlement. Sandy deposits deeper than 50 feet bgs are not usually prone to causing surface damage. In addition, soils above the groundwater table (soils that are not saturated) will not liquefy.

The CGS has mapped the potential for earthquake-induced liquefaction in portions of the state. However, the proposed project is located in an area that has not been mapped by the CGS. The potential liquefaction susceptibility in the vicinity of the project site, based on the City of Lincoln General Plan Background Conditions Report (City of Lincoln 2008c) indicates that, due to the low risk of strong seismic ground-shaking in the Lincoln area, the probability of liquefaction in the project vicinity is low. Further, groundwater level data from 2012 to 2014 for two groundwater monitoring wells located in a neighboring property immediately to the east of the project site indicate that groundwater is approximately 48 to 56 feet below ground surface (MatriScope 2015). Therefore, due to the absence of a shallow groundwater table, soils underlying the project area are not considered susceptible to liquefaction.

4.6.2 Relevant Plans, Policies, and Ordinances

Federal

Occupational Safety and Health Administration (OSHA) Regulations

Excavation and trenching are among the most hazardous construction activities. The Occupational Safety and Health Administration's (OSHA) Excavation and Trenching standard, Title 29 of the Code of Federal Regulations (CFR), Part 1926.650, covers requirements for excavation and trenching operations. OSHA requires that all excavations in which employees could potentially be exposed to cave-ins be protected by sloping or benching the sides of the excavation, supporting the sides of the excavation, or placing a shield between the side of the excavation and the work area.

State

The statewide minimum public safety standard for mitigation of earthquake hazards (as established through the California Building Code (CBC), Alquist-Priolo Earthquake Fault Zoning Act, and the Seismic Hazards Mapping Act) is that the minimum level of mitigation for a project should reduce the risk of ground failure during an earthquake to a level that does not cause the collapse of buildings for human occupancy, but in most cases, is not required to prevent or avoid the ground failure itself. It is not feasible to design all structures to completely avoid damage in worst-case earthquake scenarios. Accordingly, regulatory agencies have generally defined an "acceptable level" of risk as that which provides reasonable protection of the public safety; although it does not necessarily ensure continued structural integrity and functionality of a project (Title 14 California Code of Regulations (CCR), §3721(a)). Nothing in these acts, however, precludes lead agencies from enacting more stringent requirements, requiring a higher level of performance, or applying these requirements to developments other than those that meet the acts' definitions of a "project."

Alquist Priolo Earthquake Fault Zoning Act

Surface rupture is the most easily avoided seismic hazard. The Alquist Priolo Earthquake Fault Zoning Act was passed in 1972 to mitigate the hazard of surface faulting to structures for human occupancy. In accordance with this act, the state geologist established regulatory zones, called "earthquake fault zones," around the surface traces of active faults and published maps showing these zones. Within these zones, buildings for human occupancy cannot be constructed across the surface trace of active faults. Each earthquake fault zone extends approximately 200 to 500 feet on either side of the mapped fault trace, because many active faults are complex and consist of more than one branch. There is the potential for ground surface rupture along any of the branches. The proposed project is not subject to this act because it is not within an earthquake fault zone.

California Building Code

The CBC has been codified in the CCR as Title 24, Part 2. Title 24 is administered by the California Building Standards Commission, which, by law, is responsible for coordinating all building standards. Under state law, all building standards must be centralized in Title 24 to be enforceable. The purpose of the CBC is to establish minimum standards to safeguard the public health, safety, and general welfare through structural strength, means of egress facilities, and general stability by regulating and controlling the design, construction, quality of materials, use and occupancy, location, and maintenance of all building and structures within its jurisdiction. The 2013 edition of the CBC is based on the 2012 International Building Code (IBC) published by the International Code Conference. The 2013 CBC contains California amendments based on the American Society of Civil Engineers (ASCE) Minimum Design Standards 7-05. ASCE 7-05 provides requirements for general structural design and includes means for determining earthquake loads as well as other loads (such as wind loads) for inclusion into building codes. The provisions of the CBC apply to the construction, alteration, movement, replacement, and demolition of every building or structure or any appurtenances connected or attached to such buildings or structures throughout California.

The earthquake design requirements take into account the occupancy category of the structure, site class, soil classifications, and various seismic coefficients, which are used to determine a Seismic Design Category (SDC) for a project. The SDC is a classification system that combines the occupancy categories with the level of expected ground motions at the site and ranges from SDC A (very small seismic vulnerability) to SDC E/F (very high seismic vulnerability and near a major fault). Design specifications are then determined according to the SDC.

Seismic Hazards Mapping Act

The State Department of Conservation, CGS, provides guidance with regard to seismic hazards. Under the CGS Seismic Hazards Mapping Act, seismic hazard zones are to be identified and mapped to assist local governments for planning and development purposes. The intent of the act is to protect the public from the effects of strong ground shaking, liquefaction, landslides, or other types of ground failure, and other hazards caused by earthquakes. CGS Special Publication 117, Guidelines for Evaluating and Mitigating Seismic Hazards in California, provides guidance for evaluation and mitigation of earthquake-related hazards for projects within designated zones of required investigations (CGS 2008b). This act would not apply to the proposed project because seismic hazard zones (i.e., zones of required investigation) have not yet been established in the project area.

Local

The following local/regional regulations pertaining to geology and soils would apply to the proposed project.

General Plan

The Health and Safety and Open Space and Conservation Elements of the City of Lincoln General Plan provide objectives, policies, and programs regarding Geology and Soils, including the following:

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.

Policy 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.

Goal HS-2: To minimize exposure of persons and property to damage resulting from geologic and seismic hazards.

Policy 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.

Policy 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).

Policy 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.

Policy 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.

City of Lincoln Municipal Code

Section 8.60.400 – Design Standards

This section presents design performance standards for stormwater systems that must be met at development sites. The standards specific applicable to grading and erosion are listed below:

> (6) Sites shall be designed in a manner that limits clearing and grading to the minimum amount needed to build lots, allow access, and provide fire protection.
>
> (18) The applicant must prepare an erosion and sediment control plan for all construction activities related to implementing any on-site storm water management practices.

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 of the City of Lincoln Municipal Code 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 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).

4.6.3 Thresholds of Significance

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

1. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:
    a. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area based on other substantial evidence of as known fault. Refer to Division of Mines and Geology Special Publication 42.
    b. Strong seismic ground shaking.
    c. Seismic-related ground failure, including liquefaction.
    d. Landslides.
2. Result in substantial soil erosion or the loss of topsoil.
3. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse.

4. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property.
5. Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water.

4.6.4 Impacts Analysis

4.6.4.1 Methods of Analysis

The project setting was developed by reviewing available information on geology and soils in the project vicinity, including the Geotechnical Engineering Investigation Report prepared by MatriScope Engineering Laboratories in April 2015. Records of on-site geologic and soil characteristics from the USGS, CGS, and NRCS were used to classify geologic hazards associated with the project site.

4.6.4.2 Analysis

Impact 4.6-1. The project would not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area based on other substantial evidence of a known fault (Refer to Division of Mines and Geology Special Publication 42); strong seismic ground shaking; seismic-related ground failure, including liquefaction; or landslides.

The project site is not located in an Alquist-Priolo Earthquake Fault Zone (CGS 2015). The closest AP fault zone is the Bear Mountain Fault Zone (CDMG 1983), located approximately 40 miles north of the project site. There is little to no likelihood for fault rupture at the project site because the project site would not cross an AP fault zone or other active or potentially active fault line (CDMG 1983, CGS 2015).

The CGS's Probabilistic Seismic Hazards Mapping Ground Motion Page indicates that there is a 10% probability (1 in 475 chance) of earthquake ground motion exceeding 0.15 g at the project site over a 50-year period (CGS 2008a). This ground acceleration corresponds to lower ground shaking levels that would typically damage only weaker masonry structures not built according to modern seismic building codes. The low risk of strong seismic ground-shaking in the Lincoln area indicates a low probability of liquefaction in the project vicinity. The potential for liquefaction is increased in sites with shallow groundwater. The Geotechnical Report prepared for the project site reported groundwater levels in the vicinity of the project site at approximately 48 to 56 feet below ground surface (MatriScope 2015). The absence of a shallow groundwater table indicates that soils underlying the project area are not considered susceptible to liquefaction.

As discussed under Section 4.6.1.4, the project site and surroundings are flat and would not be susceptible to landslides.

The risk of seismic damage and liquefaction at the project site is low, and the potential for damage would be further reduced or avoided in buildings designed and constructed according to current engineering standards and the California Building Code (described in Section 4.6.2). The Geotechnical Report recommends that the proposed structures be designed for lateral force requirements as set forth in Chapter 16 of the 2013 CBC, including the specific seismic design parameters listed in Table 1 of the Geotechnical Report. These parameters would be implemented or refined as appropriate as individual development projects are reviewed by the City building official. Compliance with the CBC (adopted by the City as Municipal Code Chapter 15.04) would ensure that impacts remain **less than significant**.

Impact 4.6-2. The project would not result in substantial soil erosion or the loss of topsoil.

During construction, soils could temporarily be subject to erosion, particularly during the initial demolition and site preparation phases of construction. During this phase, existing structures and vegetation would be removed, and soils would be exposed while the site is graded and fills are hydrated/compacted to support foundations and utilities. Wind and or storm events during this period could result in potential erosion issues.

Because the proposed project would require construction activities resulting in a land disturbance of more than one acre, the project applicant is required by the State to obtain coverage under the General Permit for Discharges of Stormwater Associated with Construction Activity (Construction General Permit), which pertains to pollution from grading and project construction. Compliance with the Construction General Permit requires the project applicant to file a Notice of Intent with the SWRCB and prepare a SWPPP prior to construction. The SWPPP must include BMPs to reduce pollutants, including erosion control measures. A SWPPP describes the site, erosion and sediment controls, means of waste disposal, implementation of local plans, control of post-construction sediment and erosion control measures and maintenance responsibilities, and non-stormwater management controls. Standard BMPs include, but are not limited to: perimeter controls (such as prevention of sediment track-out), protection of drainage inlets (including placing sand bags or straw waddles around them), active watering of soil during earth-moving operations, protection/covering of temporarily exposed soils, etc. As specified in the City's Municipal Code Section 13.30.100, the project must also prepare an erosion and sedimentation control plan, which identifies the sizing and location of erosion-control BMPs on site. Among other considerations, the erosion and sedimentation control plan must present the calculated soil loss at the project site as a criterion for selecting site-appropriate BMPs. The BMPs as described in the SWPPP and erosion and sedimentation control plan would minimize soil erosion and topsoil loss during construction.

Upon completion of construction, unsurfaced areas of the project site would be landscaped, and the stormwater drainage system would be designed to capture rainfall from storm events and direct it to on-site stormwater detention basins and/or to the City's stormwater drainage system.

A Master Drainage Study for the SUD-B Northeast Quadrant Specific Plan was prepared by Frayji Design Group in November 2016. The study evaluated the magnitude of runoff resulting from post project conditions for the proposed project. As development of the project site would increase runoff due to a rise in impervious surfaces, the proposed project would utilize BMP's and Low Impact Development (LID) measures to reduce erosion and runoff in order to satisfy Municipal Small Storm Sewer System (MS4) Phase II NPDES requirements (Frayji 2016a).

The SUD-B Northeast Quadrant will work with the permit criteria applicable at the time of development and in conformance with the City of Lincoln's Improvement Standards, the Placer County Flood Control Agency's Stormwater Management Manual, the West Placer Storm Water Quality Design Manual, the open space preserve Operations and Maintenance (O&M) Plan, to design and address post construction stormwater treatment. The Preliminary Storm Water Quality Plan (PSWQP) for the proposed project includes BMPs and LIDs that developers will use and add to in order to reduce stormwater runoff (Frayji 2016a).

The proposed project would limit overall impervious coverage, detain and retain runoff throughout the site, and maintain the site's natural drainage patterns. Runoff reduction measures proposed in the PSWQP include structural source controls, soil quality improvement and maintenance, and supplemental detention. Stormwater detention basins, rain barrels, and cisterns would remove stormwater from the system, thereby reducing runoff. Stream buffers, vegetated swales, tree planting and preservation, and porous pavement areas are proposed to increase infiltration of stormwater (Frayji 2016b). With the implementation of both during-construction and post-construction measures to reduce runoff, erosion resulting from stormwater will be reduced. Therefore, the proposed project's effect on erosion rates and topsoil loss would be minimal, and the impact would be **less-than-significant**.

Impact 4.6-3. The project would be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse.

As discussed above, the potential risk from on- or off-site landslides is negligible because the topography of the project site is relatively flat. Likewise, the impact of the proposed project with respect to earthquake-induced instabilities (including landslides, lateral spreading, and liquefaction) are considered less than significant.

This impact discussion addresses the potential for compressible or expansive soils to adversely affect the proposed project or otherwise present a public safety issue. Analysis of soil properties on site

indicate that near-surface soils in the southwestern portion of the project site have a high shrink/swell potential and may experience settlements beyond tolerable limits (for structures) (MatriScope 2015). This finding is consistent with the NRCS soil data for the project site, which indicates that the majority of on-site soil types have a moderate to high shrink-swell potential (USDA 2015).

The presence of soils with high shrink-swell potential is **potentially significant**. However, these issues are routinely encountered in California and it is standard geotechnical practice to engineer on-site soils (i.e., moisture condition, lime treatment, sieving, etc.), or to import artificial fills, as necessary, to substantially reduce or eliminate potential adverse effects to structures and foundations from unstable soils or geology. Furthermore, soil settlements, shrink/swell, and/or other small ground movements that are slow and incremental in nature do not usually comprise a substantial risk to life or property. Instead, such soil conditions—if not corrected during site preparation and construction—may require frequent maintenance and repair of structures, foundation and/or utility lines. To avoid such issues, the Geotechnical Engineering Investigation Report for the proposed project recommends implementation of *Mitigation Measure GEO-1*, which requires removal, treatment and/or replacement of expansive soils on site (MatriScope 2015).

Impact 4.6-4. The project would potentially be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property.

The Geotechnical Engineering Investigation Report prepared for the project site (MatriScope 2015) identified soils having medium expansion potential in the southwestern portion of the project site. The NRCS Soil Survey for the project site characterizes the soil types in the southwestern portion of the project site, including the Alamo-Fiddyment complex and San Joaquin-Cometa sandy loams, as having a high shrink/swell potential (NRCS 2015). This portion of the project site would contain the proposed single-family residences, roads, and related infrastructure (such as subsurface utilities).

Construction of the proposed project on expansive soils is considered a **potentially significant** impact. *Mitigation Measure GEO-1* is proposed to ensure appropriate measures are implemented during construction to reduce risks associated with building on expansive soils to a level that is less than significant.

Impact 4.6-5. The project would not have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater.

The proposed project would connect to existing trunk lines through and adjacent to the project site. The proposed project would not require the use of septic tanks or alternative wastewater disposal systems, and there would be **no impact**.

4.6.5 Mitigation Measures

The following mitigation measure(s) would reduce the potential for impacts on geology and soils by ensuring that expansive soils on site are removed and/or treated for stability. Implementation of the following mitigation measure(s) would reduce impacts to a **less-than-significant level.**

MM-GEO-1 The following notes, or recommendations of the design-level geotechnical report, whichever is more detailed and stringent, will be included on project plans to be approved by the Building Division of the City of Lincoln Community Development Department prior to receipt of grading and building permits:

- The upper 18 inches of subgrade at building pads, sidewalk, pavements, and concrete flatwork shall be replaced with compacted on-site soils with low to very low expansion potential and/or non-expansive imported engineered fill mixed with lime.
- On-site soils and imported engineered fill to be used to replace expansive clays shall be evaluated/tested and approved by project geotechnical engineer prior to establishment of fill pads during construction.
- Subgrade soil replacement/lime treatment shall extend to at least 5 feet (horizontally) from the outer edge of the footings and 2 feet (horizontally) from the outer edge of flatwork, sidewalks, and pavement.
- Footings shall be constructed with a minimum 24-inch embedment below the lowest adjacent grade.
- If soils are treated with lime, lime treatment shall be performed by a specialty contractor experienced in this work and in accordance with Caltrans Standard Specifications.
- If soils are treated with lime, lime treatment submittal (including proposed equipment, materials, and construction procedures) shall be provided to applicant's geotechnical engineer for review at least 2 weeks prior to construction.
- If soils are treated with lime, Plasticity Index and Expansion Index tests shall be performed on lime-treated soils during construction to assure that they meet the project requirements.
- If soils are treated with lime, lime-treated soils shall be removed from landscape areas.

4.6.6 Level of Significance After Mitigation

Implementation of the above mitigation measures would reduce potential impacts to **less-than-significant levels.**

4.6.7 Cumulative Analysis

The effects of the proposed project, when considered with other projects in the region, would result in less-than-significant cumulative impacts with respect to geology and soils. Generally, geologic and soils impacts are localized in nature and do not extend much further than the footprint of the proposed project. As a result, other projects in the vicinity with their own impacts or potential impacts related to geology and soils would not overlap with those of the proposed project. Erosion from the project site may result in a cumulative sedimentation impact to receiving waters. Local and state provisions, including compliance with the General Construction Permit and post-construction MS4 requirements, are designed to avoid cumulative water quality impacts. Compliance with these regulations would avoid contributing to a cumulative water quality impact. Therefore, there would be no significant cumulative geologic or soils impacts to which the project could contribute.

4.6.8 References

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