

maximum single acre intensity of 1,200 persons. Residential land uses within Area A that lie within Zone C2 include Low Density Residential and Medium Density Residential. As calculated above, maximum density of 12.9 dwelling units per acre would result in approximately 39 persons per acre, well below the sitewide maximum intensity for Zone C2.

The development standards contained in the GDP ensure that development within Area A would comply with the maximum intensity thresholds as presented in the ALUCP. The City of Lincoln Zoning Ordinance limits commercial and residential structures to 50 feet in height. Because development within Area A would conform to the height restrictions in the Zoning Ordinance and those restrictions are less than the height requiring review under the ALUCP, development of Area A would not have a significant effect on airport uses.

Development within Area A would introduce low-density and medium-density residential uses in to an area characterized by larger parcels and sparse development interspersed with agricultural land. Because ultimate buildout of the Plan Area is intended to be organized around a compact core with uses along the outer edges providing transitional buffers to adjacent land uses, Area A would be the first foundation of a core area. Development of Area A would not create land use incompatibility issues with SR 65, Auburn Ravine or Markham Ravine because Area A land uses are designed to preserve and protect these features with appropriate setbacks as required by state and local laws. Development of Area A would develop residential densities much higher than what currently exists. As many of the surrounding sites are used for agriculture, there is a potential for incompatibilities. While the AO District provided in the SP and GDP documents would minimize land use incompatibilities between residential/commercial and agricultural uses, it would not totally eliminate the incompatibilities. For instance, employing 50-foot buffers between residential and/or commercial development and any existing land uses would help to minimize any noise, dust, or odors from the farming operation, but might not wholly eliminate them. As such, this impact would be **potentially significant**.

Mitigation Measure

Mitigation Measure 3.11-1 (Full Specific Plan and Area A)

Where residential uses would be located adjacent to parcels where agricultural operations are permitted, including livestock grazing and/or confinement, the applicant shall provide to all homebuyers notice in a transfer deed regarding the Agricultural Overlay District and required buffers and/or setbacks, as well as agricultural operations and potential nuisance activities that could occur on lands adjacent to the homesite. The applicant shall provide the City with draft notice language to be included in each deed prior to pulling the first building permit.

Impact Significance After Mitigation: Disclosure of adjacent agricultural activities would ensure that future residences that are adjacent to active agriculture are made aware of the types of activities that are undertaken nearby; the provision of this information would tend to ensure that

future homeowners in this area are not surprised or uninformed about potential noise, dust, and similar effects, lowering the potential that future homeowners in these areas are disturbed by such activities. This disclosure also would ensure consistency with City General Plan Policy LU 5.5 to disclose agricultural activities. While implementation of Mitigation Measure 3.11-1 listed above would alert homebuyers to potential nuisances from adjacent agricultural uses and reduce nuisance claims, this disclosure would not reduce the impact to a less-than-significant level because there would be no way to completely eliminate potential noise, dust, odors, etc. from viable agricultural operations. Because there is no additional feasible mitigation to reduce this impact, it would remain **significant and unavoidable**.

Impact 3.11-2: Implementation of the proposed project would create conflicting land uses within the Plan Area.

Full Specific Plan

Under the proposed project, the primary land use within the Plan Area would be residential. Residential development would range from rural residential (1 dwelling unit per 2-5 acres) to high density residential (13-30 dwelling units per acre). Different types of residential uses are generally compatible, and the proposed project would include design standards and guidelines that would reduce potential incompatibilities related to building height and activity levels associated with different densities and housing types.

The proposed project would also include commercial, business professional, office, park, open space, agriculture preserve, public, and school uses. As shown in Figure 2-4 in Chapter 2, Project Description, commercial and business professional uses would generally be located along major roadways, while schools would be surrounded by residential development, parks, and open space. The proposed high school would be located west of Dowd Road approximately one-quarter mile south of Nicolaus Road. Low Density Residential would be located adjacent to the north and west of the high school, while Medium Density Residential would be north and east (across Dowd Road) from the high school. Markham Ravine and associated open space would be directly adjacent to the south of the high school. A commercial area would be located diagonal from the northeast corner of the high school property.

The proposed middle school would be located along the east side of Dowd Road, approximately two-thirds mile south of Nicolaus Road. Low Density Residential would surround the middle school site on the north and east. Low Density Residential would also be located across Dowd Road from the middle school. Medium Density Residential would be directly south of the middle school, across the proposed Mavis Avenue alignment.

The northernmost elementary school would be located approximately one-quarter mile southeast of the proposed middle school. A park would be located directly adjacent to this elementary

school to the east, while Medium Density Residential would surround the elementary school to the north, south, and west.

Another elementary school would be located approximately one-half mile south of the northernmost elementary school, and approximately one-quarter mile north of Moore Road. A park would be located directly adjacent to this elementary school to the east, while Low Density Residential would surround the elementary school to the north, south, and west.

The third proposed elementary school would be located approximately one-third mile west of Dowd Road and one-half mile north of Moore Road. A park would be located directly adjacent to this elementary school to the south, while Medium Density Residential and Low Density Residential would surround the elementary school to the north, east, and west.

Village Commercial areas would be located adjacent to the south of Nicolaus Road on both the east and west sides of SR 65. West of SR 65, High Density Residential and Medium Density Residential would surround the commercial area to the west and south. East and south of SR 65, respectively, Medium Density Residential and Business Professional zones would surround the commercial site to the south and east, respectively. Another large commercial center would be located directly south of SR 65, directly west of Nelson Road. This commercial site would be bordered by the Regional Sports Complex to the west, Medium Density Residential and Village Center to the south, and Office/Commercial to the east across Nelson Road. Another Village Center would be located along the east side of Dowd Road, approximately three-quarter miles north of Moore Road. The potential for specific impacts (e.g., aesthetics, noise, traffic) are addressed in each of the respective topical sections of this Draft EIR.

The GDP includes development standards for all proposed uses, as well as design guidelines for residential and commercial development. Parks and open space areas would be located adjacent to the Auburn Ravine and Markham Ravine open space preserves, but would also be interspersed within residential areas to provide convenient access for residents. The agriculture preserve in the western portion of the Plan Area would be adjacent to country estate residential within the Plan Area.

Schools and recreational areas may generate substantial amounts of noise and nighttime light. Potential impacts from nighttime light are discussed in Impact 3.1-3 in Section 3.1, Aesthetics and Visual Quality, of this Draft EIR. Potential noise impacts are discussed in Section 3.12, Noise, of this Draft EIR.

Existing onsite rural residential uses may include small hobby farm operations, including the keeping or grazing of livestock. In some areas, rural residential parcels may be adjacent to proposed low- or medium-density residential development. In these areas, it is possible that the odor, noise, and dust from agricultural activities could create a nuisance for the higher-density properties. A proposed AO would apply to all areas within the Plan Area except the VOSN and VOSP open space designations. The AO District would be established to respect and allow the

continuation of agricultural uses that were in existence prior to adoption the Specific Plan. The AO District would establish regulations to guide agricultural-related activities for the interim period until urban development begins in accordance with the adopted Specific Plan.

As shown in Figure 2-3 in Chapter 2, Project Description, implementation of the proposed project would be phased. Residential development could be constructed and occupied while adjacent properties within the Plan Area remain undeveloped and potentially used for agricultural activities. Placing urban residential development adjacent to rural residential or agricultural uses could disturb some residents.

As shown in Figure 3.11-1, an aircraft landing strip easement is located along the western edge of Area A, and the eastern boundary of Area I. The only aircraft that utilize this landing strip are associated with existing agricultural uses within the Plan Area, particularly for pesticide spraying. While the AO would apply to the Plan Area, the use of aerial pesticide spraying would be prohibited. With the prohibition of aerial pesticide spraying, there would be no use within the Plan Area for the landing strip. This EIR discusses the impact of this private airstrip in Impact 3.9-6 in Section 3.9, Hazards/Hazardous Materials, and would require the project applicant to purchase and extinguish or assist in relocating the easement.

While most of the uses within the Plan Area would be compatible with one another, there is a possibility that noise and lighting from commercial and recreational uses and noise, odor, dust, and other nuisances from agricultural activities could create incompatibilities with adjacent residential uses. Therefore, this impact would be **potentially significant**.

Area A

Area A is located within the center of the Plan Area and would be the first area developed under the proposed project. As discussed above relative to the full Specific Plan, incompatibilities may arise as Area A would be developed before other areas. Thus, low-density residential units may be constructed and occupied within Area A while adjacent properties remain in active agricultural use. Also, Area A would include commercial and recreational uses, either of which could result in noise and lighting impacts to adjacent properties.

Commercial areas within Area A could result in land use incompatibilities with surrounding residential uses. In particular, nighttime lighting from commercial signs and structures located in the northeastern corner of Area A could be visible to surrounding residences. Noise impacts may also occur from the use of loading docks on the commercial property. The primary commercial area within Area A is located directly south of SR 65 and west of Nelson Road. The Regional Sports Park would be located directly west of the commercial area. Directly south of the commercial area would be Medium Density Residential development, as well as a Village Center adjacent to the eastern side of Nelson Road.

The Regional Sports Park is proposed for the park area south of Markham Ravine and west of SR 65. The Regional Sports Park could generate lighting impacts from field lighting and the

proposed electronic message center adjacent to SR 65. The Regional Sports Park could result in noise impacts associated with voices from crowds, amplified sounds from loud speakers, exterior public address systems, traffic generated by the complex, and musical instruments. Because of the potential for internal land use conflicts during implementation of Area A, this impact would be **potentially significant**.

Mitigation Measures

Mitigation Measure 3.11-2 (Full Specific Plan and Area A)

- i) *The project applicant shall implement Mitigation Measure 3.1-4.*

During the design review process, the applicant shall adhere to the following measures to reduce impacts from light and glare:

- a) *All light standards shall be shielded and directed downward so that light shall not emit higher than a horizontal level.*
- b) *Reflective surfaces of multi-story buildings facing streets, open spaces, parks, and residential neighborhoods shall be oriented to avoid generating glare that could create a nuisance or safety hazard.*
- c) *For parks or other facilities anticipated to include nighttime activities, the site and placement of overhead lighting shall be designed to minimize exposure of adjacent properties to spillover light and minimize the amount of light that would be visible above the horizontal plane of the light fixture.*
- d) *Normal operating hours for lighting related to nighttime recreational activities shall be until 10:00 p.m. on Sunday through Thursday and on Friday and Saturday until 11:00 p.m. to reduce the disruption to adjacent properties. Special events that would require lighting beyond normal operating hours would be subject to a permit to be issued by the City.*

- ii) *The project applicant shall implement Mitigation Measure 3.11-1.*

- iii) *The project applicant shall implement Mitigation Measure 3.12-6, which requires as follows:*

During individual phase design preparation, the applicant shall implement the following measures to assure that interior and exterior noise levels from stationary sources are below the City's standards of 60 dBA L_{dn} outdoor and 45 dBA L_{dn} indoor, respectively:

- a) *The proposed land uses shall be designed so that on-site mechanical equipment (e.g., HVAC units, compressors, generators) and area-source operations (e.g., loading docks, parking lots, and recreational-use areas) are located no closer than 120 feet from the nearest residential dwelling or provided shielding from nearby noise sensitive land uses to meet City noise standards. Shielding must have a minimum height sufficient to completely block line-of-sight between the on-site noise source and the nearest residential dwelling to meet the City noise standards. Based on the size and placement of the HVAC units (i.e., ground level or roof top), barrier heights may range between three to six feet. Depending on the layout of the proposed loading docks, barriers that completely block line-of-sight between the loading docks and the nearest residential dwelling may not be feasible.*
- b) *Limit heavy truck deliveries to the daytime hours of 7:00 a.m. to 10:00 p.m. unless a site-specific acoustical study prepared to the satisfaction of the Planning Director or Chief Building Official concludes that deliveries outside of this timeframe would not adversely affect sensitive receptors.*
- c) *The use of loudspeakers and similar devices used within parks shall be prohibited outside the hours of 7:00 a.m. to 10:00 p.m., Sunday through Thursday, and 7:00 a.m. to 11:00 p.m. on Friday and Saturday.*
- d) *Commercial loading docks located within 100 feet of existing or proposed residences shall be positioned in areas shielded from view of adjacent noise-sensitive uses by intervening commercial buildings to the degree feasible. If required to reduce noise to acceptable levels, solid noise barriers shall be constructed at the boundary of commercial uses with loading docks and have a minimum height sufficient to intercept line-of-sight between heavy trucks and the affected area of the noise-sensitive uses.*
- e) *Signs shall be posted prohibiting idling of delivery trucks to 5 minutes or less.*

Impact Significance After Mitigation: Implementation of Mitigation Measure 3.1-4 would reduce light and glare impacts by requiring structures and lighting to be shielded, directed, or otherwise designed to reduce the potential for disturbance of nearby residents. Implementation of Mitigation Measure 3.11-1 would ensure consistency with City General Plan policies regarding disclosure of the AO District overlay that would protect agricultural uses within the Plan Area until full development. Implementation of Mitigation Measure 3.12-6 requires measures to reduce potential noise impacts to a level below the City's standards of 60 dBA L_{dn} outdoor and 45 dBA L_{dn} indoor, respectively. While implementation of Mitigation Measure 3.11-2 listed above would reduce impacts associate with light and glare, noise, and traffic, disclosure of active agricultural activities would not eliminate conflicts between agriculture and proposed uses. To the extent

there's no guarantee the impacts will be substantially reduced, we conservatively conclude this impact would be **significant and unavoidable**.

Impact 3.11-3: Implementation of the proposed project could conflict with the City of Lincoln 2050 General Plan.

Full Specific Plan and Area A

The proposed project includes the entirety of the City's Village 5 as well as portions of SUD-A and SUD-B. The City's General Plan envisioned Village 5 as a suburban development taking advantage of key arterial roads.¹⁶ The SUDs contain land uses that are consistent with the restrictions of the Placer County Airport Land Use Compatibility Plan for the Lincoln Regional Airport (discussed in Impact 3.11-5, below) and will assist the City in providing for the economic development opportunities identified in the fiscal and economic analysis prepared for the General Plan.¹⁷ SUD-A is envisioned to be a commercial area for activities that require large areas for facilities or operations but with few persons per acre as required by the airport regulations.¹⁸ SUD-B is envisioned to have commercial land use at the four quadrants of SR 65 Bypass and Nelson Road interchange.¹⁹

The proposed project would provide for orderly growth as described in General Plan Goal LU-1 because the project site is adjacent to existing developed areas. Thus, implementation of the proposed project would be part of a logical, linear progression of development progressing out from downtown Lincoln.

The proposed project would provide for a variety of residential units as described in General Plan Goal LU-2. As discussed in Chapter 2, Project Description, the proposed project would include residential development in a wide variety of densities. Residential uses would range from rural residential (1 dwelling unit per 2-5 acres) to high density residential (13-30 dwelling units per acre). The variety of residential units available would be consistent with Policies LU-1.7 and LU-2.6.

The proposed project would develop around a compact, mixed use core that would include mixed use, residential, commercial, and parks in close proximity, consistent with General Plan Policies LU-1.1, LU-1.8, LU-1.10, LU-2.8, LU-3.4, and LU-3.7. As discussed in Impact 3.11-2 above, the mix of land uses within the project site are designed to be compatible, though mitigation may be required to avoid incompatibilities, consistent with General Plan Policies LU-2.1, LU-2.10, LU-3.5, LU-3.6, and LU-5.5. Specific Plan objectives include establishing a circulation system that offers choices for non-vehicular transportation, consistent with General Plan Policy LU-1.6.

¹⁶ City of Lincoln, 2008. City of Lincoln General Plan. Adopted March 25, 2008. p. 4-28.

¹⁷ Ibid., p. 4-41.

¹⁸ Ibid., p. 4-42.

¹⁹ Ibid., p. 4-43.

Preservation and protection of the Auburn Ravine and Markham Ravine riparian corridors is a key objective of the proposed project. These areas are designated as open space preserves with buffering provided by the natural open space and parks that are proposed to be located along these corridors. This preservation of natural resources and buffering from development are consistent with General Plan Policies LU-1.4 and LU-1.11.

The proposed project would be consistent with the identified, applicable land use goals and policies of the City of Lincoln's General Plan for the reasons discussed in **Table 3.11-2**. Thus, this impact would be **less than significant**.

Mitigation Measure

None required.

Impact 3.11-4: Implementation of the proposed project could conflict with Placer County LAFCO policies for annexation.

Full Specific Plan and Area A

The proposed project includes a request for annexation of the Plan Area to the City of Lincoln. The Placer County LAFCO is the organization responsible for evaluation and, if appropriate, approval of the annexation. Under the Cortese-Knox-Hertzberg Act, LAFCOs are tasked with preserving agricultural land, encouraging logical patterns of growth, and discouraging urban sprawl. This analysis addresses the proposed project's consistency with Placer County LAFCO policies for annexation, but final determination of consistency is the responsibility of Placer County LAFCO.

Goal 1 is to encourage the orderly formation of local government agencies and the efficient provision of government services. Policy I(A)(3) requires annexation applications to provide information regarding the services that would be extended to the annexation area, specifically disclosure of the physical area to be served, required improvements, and financing. Section 3.14, Public Services and Recreation, and Section 3.16, Utilities and Infrastructure, of this Draft EIR describe the existing conditions, required facilities and infrastructure, and potential environmental impacts of providing required services.

Policy I(A)(4) requires annexation applications to include a plan for services if the area is not in an area for which a Municipal Services Review (MSR) has been conducted. As of 2000, the Cortese-Knox-Hertzberg Act requires preparation of an MSR for new areas within a local agency's sphere of influence. If an area proposed for annexation is not within an agency's sphere of influence, an MSR will be required. Because the Plan Area is within the City of Lincoln's sphere of influence, preparation of an MSR for the annexation of the project site is not required.

**TABLE 3.11-2.
CITY OF LINCOLN GENERAL PLAN CONSISTENCY – LAND USE AND PLANNING**

General Plan Goals and Policies	Consistency Determination	Analysis
Goal LU-1: To grow in orderly pattern consistent with the economic, social, and environmental needs of Lincoln.		
LU-1.1: Mixed Use Development. The City shall promote efficient use of larger vacant parcels and vacant areas of the city by encouraging mixed use development.	Consistent	The proposed project includes a variety of uses, including residential, commercial, and public uses. The proposed project also includes areas designated as Village Mixed Use.
LU-1.4: Buffer. The City shall require buffer areas between development projects and significant watercourses, riparian vegetation, and wetlands.	Consistent	The Auburn Ravine and Markham Ravine riparian corridors traverse the project site. These areas would be designated as open space preserves. Natural open space area and parks would be located along most of these alignments, creating a buffer between the riparian habitat and development.
LU-1.6: Transportation Choices. The City will promote the application of land use layouts and community designs that provide residents with transportation choices to walk, ride bicycles, ride transit services, as well as utilize a vehicle, including neighborhood electric vehicles.	Consistent	The proposed project has been designed to promote transportation choices by including a mobility plan that includes bicycles, Neighborhood Electric Vehicles (NEVs) and pedestrians. The circulation system emphasizes connectivity between uses and creating a safe and efficient circulation system.
LU-1.7: Housing Choices. The City will promote the application of land use designs that provide a variety of places where residents can live, including apartments, condominiums, townhouses, and single-family attached and detached.	Consistent	The proposed project includes residential development in a variety of densities, including rural residential (0.2 to 0.5 dwelling units per acre), country estate (1.0-2.9 du/ac), low-density residential (3.0-5.9 du/ac), medium-density residential (6.0-12.9 du/ac), and high-density residential (13.0-30.0 du/ac).
LU-1.8: Compact Development. The City will promote the use of development patterns that are more compactly built and use space in an efficient but aesthetic manner to promote more walking, biking and use of public transit.	Consistent	The V5SP Land Use Plan is designed to use the land efficiently, by providing a compact core and appropriate land use transitions while responding to the existing constraints. The land uses are organized in a modified grid pattern to encourage more walking, biking and use of alternative vehicles and to shorten auto trips.
LU-1.10: Mixed Land Uses. Within the designated Village areas, the City will promote a mixed land use designed to place homes together with smaller businesses, institutional, and community land uses. The Village Core area will utilize the Mixed Use (MU) designation. Mixed land uses could include vertical as well as horizontal design allowing for differing land uses within the same building, as well as within the same project area.	Consistent	The proposed project has been designed to include two Village Core areas with a variety of uses, including mixed use, commercial, residential, and parks.
LU-1.11: Natural Resource Conservation. To promote a high quality of life within the community, the City will in conjunction with related policies in other general plan elements, promote the retention of natural open space areas, greenbelts, and the provision of adequate parks as part of approving new land use designs.	Consistent	The Auburn Ravine and Markham Ravine riparian corridors traverse the project site. These areas would be designated as open space preserves. Natural open space area and parks would be located along most of these alignments, creating a buffer between the riparian habitat and development. Additionally, numerous parks in a variety of sizes are proposed throughout the project site.

**TABLE 3.11-2.
CITY OF LINCOLN GENERAL PLAN CONSISTENCY – LAND USE AND PLANNING**

General Plan Goals and Policies	Consistency Determination	Analysis
LU-1.12: Quality Design. Through the design review process, apply design standards that promote the use of high quality building materials, architectural and site designs, landscaping signage and amenities. The City will continue to develop and apply design standards that result in efficient site and building designs, pedestrian friendly projects that stimulate the use of alternative modes of transportation, and a functional relationship between adjacent developments.	Consistent	The proposed project would include adoption of the V5SP and GDP. These documents would guide development of the Plan Area by providing design guidelines and other information that would ensure quality design in the Plan Area.
LU-1.13: Form Based Zoning. In order to implement smart growth principles, the City will utilize form based zoning in the designated Village areas.	Consistent	The proposed project would include adoption of the Village 5 GDP that includes zoning districts that are influenced by form-based concepts.
LU-1.14: Land Use Conflicts. The City shall continue to apply the regulations and procedures of the City's Zoning Ordinance and shall use the environmental process to prevent or mitigate land use conflicts.	Consistent	This Draft EIR evaluates potential land use conflicts and incompatibilities in Impact 3.11-1 and 3.11-2.
Goal LU-2: To designate, protect, and provide land to ensure sufficient residential development to meet community needs and projected population growth.		
LU-2.1: Prevent Incompatible Uses. The City shall prevent the intrusion of new incompatible activities and land uses (i.e., traffic, noise) and environmental hazards (i.e., flood, soil instability) into existing residential areas.	Consistent	Potential land use incompatibilities are discussed in Impact 3.11-1 and 3.11-2.
LU-2.6: Land Use Designations. The City shall provide a variety of residential land use designations that will meet the future needs of the city.	Consistent	The proposed project includes a variety of uses, including residential, commercial, and public uses
LU-2.8: Innovative Development. The City shall promote flexibility and innovation in residential land use through the use of planned unit developments, developer agreements, specific plans, mixed use projects, and other innovative development and planning techniques.	Consistent	The proposed project would include adoption of the V5SP and GDP. These documents would guide development of the project site by providing design guidelines and other information for buildout of the proposed project.
LU-2.10: Airport Buffer. Protect existing and planned local air transportation facilities from encroachment by potentially incompatible land uses and require developers to file an aviation easement with the City if a proposed development or expansion of an existing use is located in an area subject to a compatibility zone within the Placer County Airport Land Use Compatibility Plan (ALUCP).	Consistent	The land use plan for the proposed project has been designed to adhere to the Placer County Airport Land Use Compatibility Plans (ALUCP) requirements regarding land use, density, and development standards for the compatibility zones that overlay the project site. Development within the land use compatibility zones will be reviewed by the Airport Land Use Commission for compatibility with the airport.
Goal LU-3: To designate adequate commercial land for and promote development of commercial uses compatible with surrounding land uses to meet the present and future needs of Lincoln residents, the regional community, and visitors and to maintain economic vitality.		
LU-3.2: Commercial Land Use. The City shall designate sufficient commercial land to meet the future needs of the city.	Consistent	The land use plan for the proposed project includes approximately 440 acres that would be designated for commercial development.
LU-3.4: Grouping of Commercial Land Uses. The City shall avoid "strip commercial" land uses in new development areas by encouraging grouping of commercial land uses in core areas.	Consistent	The land use plan for the proposed project includes areas designated for commercial development in areas that primarily take advantage of proximity to major roadways and SR 65.

**TABLE 3.11-2.
CITY OF LINCOLN GENERAL PLAN CONSISTENCY – LAND USE AND PLANNING**

General Plan Goals and Policies	Consistency Determination	Analysis
LU-3.5: Mitigate Land Use Conflicts. The City shall mitigate conflicts between new commercial land uses and other land uses, especially residential, park, and recreational uses.	Consistent	Potential land use incompatibilities and mitigation are discussed in Impact 3.11-1 and 3.11-2.
LU-3.6: Buffer Commercial Land Uses. The City shall require that commercial land uses be buffered from incompatible land uses and protected from encroachment by incompatible uses through the use of techniques including, but not limited to, landscaping, soundwalls, berms, fencing, open space set-backs, greenbelts, and building orientation.	Consistent	The land use plan for the proposed project has designated areas for commercial development. The need for soundwalls, fencing, or other buffers shall be determined as development plans are reviewed by the City.
LU-3.7: Innovative Development. The City shall promote flexibility and innovation in commercial land use through the use of planned unit developments, developer agreements, specific plans and other innovative development and planning techniques.	Consistent	The proposed project would include adoption of the V5SP and GDP. These documents would guide development of the project site by providing design guidelines and other information for buildout of the proposed project.
LU-3.8: Regional Commercial Opportunities. The City will identify and preserve appropriate areas (based on size and location) for development of regional commercial opportunities.	Consistent	The land use plan for the proposed project includes approximately 440 acres that would be designated for commercial development. The commercial areas are primarily located in areas to take advantage of proximity to major roadways and SR 65.
Goal LU-5: To retain rural designations for large parcels of land outside the city limits but within the Planning Area, until annexed to city.		
LU-5.3: Protect Agriculture. The City shall ensure that agricultural land uses are not prematurely terminated by protecting the continued operation of agricultural land uses.	Consistent	The proposed project would include creation of an Agricultural Overlay (AO) District to allow for continuation of agricultural uses within the Plan Area until such time that the land would be developed consistent with the V5SP.
LU-5.4: Agricultural Buffers. 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.	Consistent	The proposed AO District would provide buffering for agricultural uses from new development. Additionally, the land use plan has been developed such that urban uses would be the most dense in the Village core, with lowering density and intensity toward the edges of the Plan Area. This transitioning of uses would place Rural Residential and Country Estate uses along the Plan Area edges that would be adjacent to agricultural uses.
LU-5.5: Agricultural Disclosure. Residential developments locating next to active agricultural areas will have a notice included in the deed notifying buyers of agricultural use.	Consistent	Mitigation Measure 3.11-1 requires a deed notice of agricultural operations.
Source: City of Lincoln, 2008. City of Lincoln 2050 General Plan. Adopted March 25, 2008.		

Policy I(B)(2) encourages the simultaneous annexation to a city and special districts. Because the proposed project would require the City of Lincoln to extend its service boundaries to serve the area proposed for annexation, applications for annexation to the City and to special districts would be submitted simultaneously.

When a proposed annexation would result in roadways forming the boundary between jurisdictions, Policy I(D)(3) requires that environmental documentation for proposed projects include analyses that evaluate the impacts of the roads remaining in the county or being annexed to the city. For the proposed project, portions of Nicolaus Road and Nelson Lane would form the boundaries between the area proposed for annexation and unincorporated Placer County. Because the unincorporated area beyond these boundary roads is within the City's existing sphere of influence and eventual annexation, it is anticipated that these roadway sections would be annexed to the City of Lincoln. Placement of these roadway segments within the City or County's jurisdiction would not result in differing environmental impacts.

Policies II(1) and (2) encourage preservation of agriculture and open space. The proposed project would include a large agricultural preserve in the western portion of the project site. Additionally, the riparian corridors of Auburn and Markham Ravines would be designated as open spaces preserves with additional open space buffering the corridors from development.

Policy III(A)(1) establishes a priority list for urbanization of land as follows: a) vacant or underdeveloped land within the existing boundaries; b) vacant land within the SOI; c) vacant land outside the SOI. The Plan Area is within the City's sphere of influence and is anticipated for development by the City's General Plan. The Plan Area would be pre-zoned as part of the annexation process to the Village 5 designations discussed above, consistent with the City's General Plan.

Policy III(A)(2) provides factors to be considered in determining logical growth patterns for annexation. These factors include adjacency with existing and planned development, projected growth demand, the annexing city's ability to provide services, and pending development applications. Village 5 is directly adjacent to the City's westernmost boundary and it abuts Village 7, which is both east and to the south of Village 5. The City's population in 2014 was 45,206 and is expected to grow to 132,000 in 2050 under full buildout of the 2050 General Plan, though actual population growth may be lower due to the Great Recession. According to the City's Housing Element, adopted in November 2013, the City has only 13 vacant parcels within existing City limits – seven zoned for Single-Family Residential, and six zoned for Planned Development. The majority of these parcels are 0.15 acres; one is 1.8 acres and another is 3.9 acres.²⁰ Village 5 services would be built by developers and/or funded by CFDs, to the levels required by the City's General Plan.

²⁰ City of Lincoln, 2013. *City of Lincoln 2013-2021 Housing Element*, Adopted November 12, 2013. Table A-48, p. 63.

Policy III(A)(5) discourages urban development in unincorporated areas adjacent to city boundaries. As part of the general plan update process, the City of Lincoln carefully considered and modified its sphere of influence to include areas that would meet future urban growth needs.²¹ The Plan Area is within the City's sphere of influence. Thus, annexation of the Plan Area to the City of Lincoln has already been considered relative to logical growth patterns.

Policy III(C)(2) discourages annexations if there are feasible alternative sites for the project already within the city. The proposed project includes approximately 4,900 acres within the City's sphere of influence for Village 5. The Plan Area has been specifically slated for Village development by the City of Lincoln in its General Plan. The Plan Area would include a large sports complex, senior housing neighborhoods, regional shopping at the interchange of Nelson Road and SR 65, and varying densities of residential housing, a new fire station, among other uses. Because the City has specifically contemplated Village 5 as a future growth area in its General Plan, and because it will provide a number of local and regional amenities not contemplated by either Villages 1 or 7, annexation should not be discouraged.

Because the proposed project would meet LAFCO's annexation requirements, this impact would be **less than significant**.

Mitigation Measure

None required.

Impact 3.11-5: Implementation of the proposed project could conflict with Placer County Airport Land Use Compatibility Plan (ALUCP).

Full Specific Plan and Area A

Most of the Plan Area lies within the Lincoln Regional Airport compatibility zones as shown in Figure 3.11-5. The proposed project has been designed to be consistent with the airport compatibility restrictions.

Compatibility Zone A would overlay a small portion of the northeast area of the Plan Area. Land within Zone A is currently designated as rural residential with 10-acre minimum lots under the Placer County General Plan. Under the proposed project, this area within Zone A would remain rural residential use and no changes in use or intensification of uses would occur within Zone A.

Zone B1 would overlay most of the northeast corner of the site where it wraps around Zone A. Land uses proposed in Zone B1 include rural residential, business and professional, office/commercial, and natural open space. These uses are permitted within Zone B1, though there are

²¹ City of Lincoln, 2008. City of Lincoln General Plan. Adopted March 25, 2008, p. 2-6.

height and use restrictions with which the proposed project would have to comply. The height restrictions for each zone are included in the GDP for the Plan Area.

Zone C1 would overlay much of the eastern side of the Plan Area. This zone permits single-family residential development, as well as parks, outdoor recreation, and commercial development with airspace reviews for structures in excess of 70 feet in height. Uses proposed for this zone include rural residential, low-density residential, village center, commercial, and open space. These proposed uses would be compatible with the Zone C1 restrictions.

Zone C2 would cover much of the center of the Plan Area. This zone allows most uses with the exception of penal institutions, hazardous materials storage or handling, and landfills or waste disposal sites – uses which are not proposed as part of the Specific Plan. Proposed uses in this area include low and medium-density residential, parks, commercial, and open space.

Zone D would cover much of the western and southern areas of the Plan Area. This zone is the least restrictive of the compatibility zones. As they are not allowed in other more restrictive zones, high-density residential development and public schools would be located within Zone D.

The development standards and design guidelines provided in the GDP are intended to ensure development within the Plan Area would be consistent with the airport land use compatibility zones. Potential incompatibilities from aircraft noise are addressed in Section 3.12, Noise, of this Draft EIR.

The proposed project would be consistent with the ALUCP for the reasons discussed above. Thus, this impact would be **less than significant**.

Mitigation Measure

None required.

Impact 3.11-6: Implementation of the proposed project could conflict with the current working draft of the Placer County Conservation Plan (PCCP).

Full Specific Plan

As discussed above, a Draft PCCP has been prepared but not yet approved at the time of this Draft EIR. The PCCP is a landscape-level plan and emphasizes the conservation of ecosystems, natural communities and ecological processes. Rather than the piecemeal approach of project-level mitigation, which often results in small blocks of avoided and preserved habitat both within project sites and at off-site mitigation areas, the PCCP focuses on configuring a large, contiguous reserve system. Figure 3.11-6 shows a portion of the draft reserve map, which identifies areas that are currently reserves, areas to be acquired for reserve areas, and areas planned for future development. The land identified as existing habitat reserve is within the Lincoln High School

Farm site and is protected by a conservation easement. The area in the western extent of the project site that is identified as reserve acquisition area encompasses Area G, which would be designated as open space agriculture under the proposed project. Land along the southern boundary of the Plan Area that is identified on Figure 3.11-6 as reserve acquisition area would be designated as open space preserve under the proposed project. The areas within the Plan Area identified for potential future growth would be developed under the proposed project, though some areas would be preserved, particularly the areas within and adjacent to Markham and Auburn Ravines. Additional details regarding the PCCP and the proposed project's mitigation strategy relative to the PCCP can be found in Section 3.4, Biological Resources. Because the land uses and development under the proposed project would be consistent with the most current draft reserve area map for the PCCP, this impact would be **less than significant**.

Area A

As shown in Figure 3.11-6, most of Area A is identified for potential future growth in the PCCP. However, there are two small areas adjacent to the north side of Moore Road that are identified as reserve acquisition area in the PCCP. These two areas are located along the southern boundary of Area A. Under the proposed project, these areas would be part of the open space area within and adjacent to Auburn Ravine. Because the land uses and development under the proposed project for Area A would be consistent with the most current draft reserve area map for the PCCP, this impact would be **less than significant**.

Mitigation Measure

None required.

Cumulative Impacts

This Land Use and Planning section does not address cumulative impacts because for land use, the cumulative context to assess land use consistency and compatibility issues is generally the same as the project-specific context. Land use effects related to general plan policy consistency and land use compatibility are generally localized and would not combine with similar effects in other locations. The exception to this would be the potential for cumulative impacts related to conflicts between agricultural and residential land uses. The conversion of open space to developed uses could result in cumulative impacts related to the loss of biological resources, agricultural resources, air quality, and other environmental effects. Cumulative impacts related to these issue areas and others are discussed in their respective sections in this EIR. Cumulative impacts with respect to general plan consistency would not differ from those identified for the project; please see Impact 3.11-3.

Impact 3.11-7: Implementation of the proposed project could contribute to a cumulative increase in incompatible land uses.

As discussed above, much of the Plan Area and land to the north and west of the Plan Area are used for agricultural operations. As discussed in Impacts 3.11-1 and 3.11-2, development of new residential units within the Plan Area could conflict with active agricultural operations. Using the draft PCCP reserve map in Figure 3.11-6 as a base for future development under cumulative conditions, there is a large amount of land north, east, and south of the Plan Area that is designated for potential future development. Land immediately adjacent to the western edge of the Plan Area and out toward the Sutter County line are planned as part of the reserve acquisition area. Additionally, land immediately north and west of Lincoln's existing city limits (i.e., Village 4, Village 6, Village 7, SUD-A, and SUD-C) is anticipated for future development. With increased development and urbanization, the potential for conflicts between agricultural and residential uses would decrease because there would be less land employed for agricultural uses. Additionally, Lincoln General Plan policies and the AO District proposed in the GDP and SP requiring buffers between agricultural and urban uses would help reduce impacts. Also, with less agricultural land, there would not be as much noise, dust, or odors that could negatively affect new residential development. Therefore, the proposed project would not have a cumulatively significant incremental contribution to this impact.

3.12 Noise and Vibration

This chapter describes the existing noise environment in the vicinity of the V5SP and the potential for significant increases in noise and vibration levels due to the construction and operation of the proposed project. Specifically, this chapter analyzes potential noise and vibration impacts from the development of the residential, mixed-use, parks, open space and public facilities relative to noise and vibration criteria.

Public comments related to noise were received during the public comment period on the NOP for this EIR. The comments included a concern regarding airport noise from Lincoln Regional Airport, noise factors that can affect school facilities and noise impacts related to urban activities. The exposure of people residing or working within the project area to aircraft noise from Lincoln Regional Airport is discussed in Impact 3.12-4. Impacts 3.12-1, 3.12-4 and 3.12-6 address the exposure of school facilities to substantial noise levels during the construction and operation of the proposed project. Lastly, Impacts 3.12-3 and 3.12-6 address the possible noise effects related to onsite urban activities.

The analysis included in this chapter was developed based on project-specific construction and operational features and data provided in the Lincoln Village 5 Draft Specific Plan, City of Lincoln 2050 General Plan, City of Lincoln 2050 General Plan Environmental Impact Report, the Placer County Airport Land Use Compatibility Plans, and traffic information provided by the traffic consultant and field investigation to measure existing noise levels.

3.12.1 Environmental Setting

Technical Background and Noise Terminology

Noise can be generally defined as unwanted sound. Sound, traveling in the form of waves from a source, exerts a sound pressure level (referred to as sound level) which is measured in decibels (dB), with zero dB corresponding roughly to the threshold of human hearing and 120 to 140 dB corresponding to the threshold of pain.

Sound pressure fluctuations can be measured in units of hertz (Hz), which correspond to the frequency of a particular sound. Typically, sound does not consist of a single frequency, but rather a broad band of frequencies varying in levels of magnitude (sound power). The sound pressure level, therefore, constitutes the additive force exerted by a sound corresponding to the frequency/sound power level spectrum.

The typical human ear is not equally sensitive to all frequencies of the audible sound spectrum. As a consequence, when assessing potential noise impacts, sound is measured using an electronic filter that de-emphasizes the frequencies below 1,000 Hz and above 5,000 Hz in a manner corresponding to the human ear's decreased sensitivity to low and extremely high frequencies instead of the frequency mid-range. This method of frequency weighting is referred to as A-

weighting and is expressed in units of A-weighted decibels (dBA). Frequency A-weighting follows an international standard methodology of frequency de-emphasis and is typically applied to community noise measurements. Some representative noise sources and their corresponding A-weighted noise levels are shown in **Figure 3.12-1**.

Noise exposure is a measure of noise over a period of time. Noise level is a measure of noise at a given instant in time. Community noise varies continuously over a period of time with respect to the contributing sound sources of the community noise environment. Community noise is primarily the product of many distant noise sources, which constitute a relatively stable background noise exposure, with the individual contributors unidentifiable. The background noise level changes throughout a typical day, but does so gradually, corresponding with the addition and subtraction of distant noise sources such as traffic and atmospheric conditions. What makes community noise constantly variable throughout a day, besides the slowly changing background noise, is the addition of short duration single event noise sources (e.g., aircraft flyovers, motor vehicles, sirens), which are readily identifiable to the individual receptor. These successive additions of sound to the community noise environment vary the community noise level from instant to instant, requiring the measurement of noise exposure over a period of time to legitimately characterize a community noise environment and evaluate cumulative noise impacts.

This time-varying characteristic of environmental noise is described using statistical noise descriptors. The most frequently used noise descriptors are summarized below:

L_{eq} : the energy-equivalent sound level is used to describe noise over a specified period of time, typically one hour, in terms of a single numerical value. The L_{eq} is the constant sound level, which would contain the same acoustic energy as the varying sound level, during the same time period (i.e., the average noise exposure level for the given time period).

L_{max} : the instantaneous maximum noise level for a specified period of time.

L_{50} : the noise level that is equaled or exceeded 50 percent of the specified time period. The L_{50} represents the median sound level.

L_{90} : the noise level that is equaled or exceeded 90 percent of the specific time period. This is considered the background noise level during a given time period.

L_{dn} : also abbreviated DNL, it is a 24-hour day and night A-weighted noise exposure level which accounts for the greater sensitivity of most people to nighttime noise by weighting noise levels at night (“penalizing” nighttime noises). Noise between 10:00 p.m. and 7:00 a.m. is weighted (penalized) by adding 10 dB to take into account the greater annoyance of nighttime noises.

CNEL: similar to DNL, the Community Noise Equivalent Level (CNEL) adds a 5-dB “penalty” for the evening hours between 7:00 p.m. and 10:00 p.m. in addition to a 10-dB penalty between the hours of 10:00 p.m. and 7:00 a.m.

As a general rule, in areas where the noise environment is dominated by traffic, the L_{eq} during the peak-hour is generally within one to two decibels of the L_{dn} at that location.

NOISE LEVEL
COMMON OUTDOOR ACTIVITIES (dBA) COMMON INDOOR ACTIVITIES

	110	Rock band
Jet flyover at 1,000 feet		
	100	
Gas lawnmower at 3 feet		
	90	
Diesel truck at 50 feet at 50 mph		Food blender at 3 feet
	80	
Noisy urban area, daytime		
Gas lawnmower at 100 feet	70	Garbage disposal at 3 feet
Commercial area		Normal speech at 3 feet
Heavy traffic at 300 feet	60	
		Large business office
Quiet urban daytime	50	Dishwasher in next room
Quiet urban nighttime	40	Theater, large conference room (background)
Quiet suburban nighttime		
	30	Library
Quiet rural nighttime		Bedroom at night, concert hall (background)
	20	
		Broadcast/recording studio
	10	
	0	

Effects of Noise on People

When a new noise is introduced to an environment, human reaction can be predicted by comparing the new noise to the ambient noise level, which is the existing noise level comprised of all sources of noise in a given location. In general, the more a new noise exceeds the ambient noise level, the less acceptable the new noise will be judged by those hearing it. With regard to increases in A-weighted noise level, the following relationships occur:

- except in carefully controlled laboratory experiments, a change of 1-dB cannot be perceived;
- outside of the laboratory, a 3-dB change is considered a just-perceivable difference;
- a change in level of at least 5-dB is required before any noticeable change in human response would be expected; and
- a 10-dB change is subjectively heard as approximately a doubling in loudness, and can cause an adverse response.¹

The perceived increases in noise levels shown above are applicable to both mobile and stationary noise sources. These relationships occur in part because of the logarithmic nature of sound and the decibel system. The human ear perceives sound in a non-linear fashion; hence, the decibel scale was developed. Because the decibel scale is based on logarithms, two noise sources do not combine in a simple additive fashion, rather logarithmically. For example, if two identical noise sources produce noise levels of 50 dBA, the combined sound level would be 53 dBA, not 100 dBA.

Noise Attenuation

Stationary point sources of noise, including stationary mobile sources such as idling vehicles, attenuate (lessen) at a rate between 6 dBA for hard sites and 7.5 dBA for soft sites for each doubling of distance from the reference measurement. Hard sites are those with a reflective surface between the source and the receiver such as parking lots or smooth bodies of water. No excess ground attenuation is assumed for hard sites and the changes in noise levels with distance (drop-off rate) is simply the geometric spreading of the noise from the source. Soft sites have an absorptive ground surface such as soft dirt, grass or scattered bushes and trees. In addition to geometric spreading, an excess ground attenuation value of 1.5 dBA (per doubling distance) is normally assumed for soft sites. Line sources (such as traffic noise from vehicles) attenuate at a rate between 3 dBA for hard sites and 4.5 dBA for soft sites for each doubling of distance from the reference measurement.²

¹ California Department of Transportation, 2013. Technical Noise Supplement to the Traffic Noise Analysis Protocol. September 2013. Although the increases human perception in A-weighted noise levels is from a Caltrans document, the human perception of noise follows these noise levels regardless of the source – mobile or stationary. Therefore, this reference document is applicable to more than just traffic noise sources.

² Ibid.

Noise levels may also be reduced by permanent intervening structures, such as a row of buildings, a solid wall, or a berm located between the receptor and the noise source. Temporary structures such as moveable barriers can also reduce noise impacts. According to the U.S. Department of Housing and Urban Development (HUD) *Noise Guidebook*,³ standard building construction results in an exterior-to-interior noise reduction of 20 dBA with windows closed.

Fundamentals of Vibration

As described in the Federal Transit Administration's (FTA) *Transit Noise and Vibration Impact Assessment*, ground-borne vibration can be a serious concern for nearby neighbors, causing buildings to shake and rumbling sounds to be heard.⁴ In contrast to airborne noise, ground-borne vibration is not a common environmental problem. It is unusual for vibration from sources such as buses and trucks to be perceptible, even in locations close to major roads. Some common sources of ground-borne vibration are trains, buses and heavy trucks on rough roads, and construction activities such as blasting, sheet pile driving and operating heavy earth-moving equipment.

There are several different methods that are used to quantify vibration. The peak particle velocity (PPV) is defined as the maximum instantaneous peak of the vibration signal. The PPV is most frequently used to describe vibration impacts to buildings. The root mean square (RMS) amplitude is most frequently used to describe the effect of vibration on the human body. The RMS amplitude is defined as the average of the squared amplitude of the signal. Decibel notation (Vdb) is commonly used to express RMS. The decibel notation acts to compress the range of numbers required to describe vibration. Typically, ground-borne vibration generated by man-made activities attenuates rapidly with distance from the source of the vibration. Sensitive receptors for vibration assessment include structures (especially older masonry structures), people who spend a lot of time indoors (especially residents, students, the elderly and sick), and vibration sensitive equipment such as hospital analytical equipment and equipment used in computer chip manufacturing.

The effects of ground-borne vibration include movement of the building floors, rattling of windows, shaking of items on shelves or hanging on walls and rumbling sounds. In extreme cases, the vibration can cause damage to buildings. Building damage is not a factor for most projects, with the occasional exception of blasting and pile driving during construction. Annoyance from vibration often occurs when the vibration exceeds the threshold of perception by only a small margin. A vibration level that causes annoyance can be well below the damage threshold for normal buildings.

³ Department of Housing and Urban Development, 2009. HUD Noise Guidebook. March 2009.

⁴ Federal Transit Administration, 2006. Transit Noise and Vibration Impact Assessment. May 2006.

Existing Noise-Sensitive Land Uses

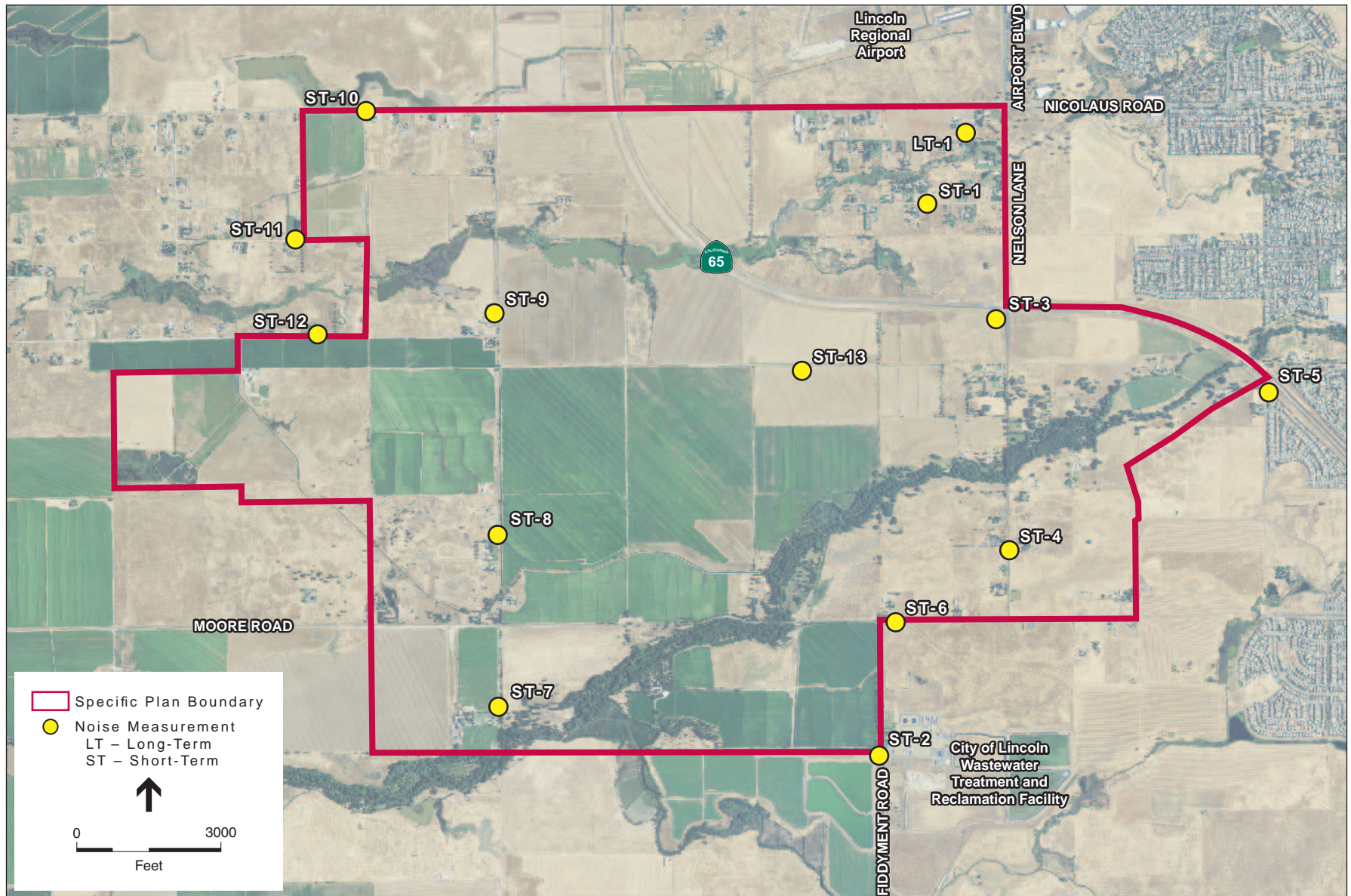
Noise sensitive land uses, where high noise levels can disrupt sleep, mechanical equipment, or other activities, or where long-term exposure can result in health effects, are typically defined as residences, schools, places of worship, hospitals, care centers and hotels. The Plan Area includes land that is currently occupied by rural residential and institutional land uses. The residential land uses consists of widely dispersed rural residential dwellings mostly located along Nelson Lane, Moore Road, Dowd Road and Nicolaus Road. The proposed project would also be adjacent to residential land use located along Prairie Way, William Lane and Moore Road. There is an existing 280-acre Lincoln High School (LHS) Farm property within the Plan Area, east of Dowd Road and south of William Lane. This facility consists of educational farming projects and wildlife habitat on the majority of the site, with classrooms and workshops on the easternmost area.

Based on field observations, there are scattered land uses within Area A. The nearest on-site existing noise-sensitive land uses to Area A consist of single-family homes 170 feet southeast, 570 feet south, and 780 feet east of the Area A boundary. There are scattered residential land uses located within the Plan Area, which are mainly located along Dowd Road, Nelson Lane and Moore Road. The nearest off-site noise-sensitive land use to the Plan Area consists of a single-family home located at the end of Prairie Way located within 100 feet north-west from the outer edge of the project boundary. Other noise-sensitive land uses located adjacent to the Plan Area are single family homes located within 500 feet east of the outer edge of the project boundary, across SR 65.

Existing Environment

The ambient noise environment surrounding the proposed project site is primarily the result of traffic noise from Nelson Lane, Lincoln Highway (SR 65), Moore Road, Nicolaus Road and Dowd Road. Other noise sources in the area include aircraft overflights from Lincoln Regional Airport (located approximately 1,450 feet from the project's northern boundary – across Nicolaus Road), an existing airstrip within the Plan Area, rail pass-by events along the UPRR railroad tracks (located approximately 8,300 feet from the projects eastern boundary), off-road farming equipment noise from the LHS Farm, and wildlife sounds such as birds chirping. The existing land uses within the project site include agricultural uses for grazing and rice farming, the LHS Farm, small ranches and scattered rural residential homes.

To quantify the existing ambient noise levels in the project vicinity, ESA conducted a noise survey within and near the project site. The noise measurement survey was conducted from February 12 to 14, 2015 and consisted of thirteen 15-minute short-term noise measurements and one 48-hour long-term noise measurement. These test locations are illustrated in **Figure 3.12-2**. The area surrounding the project site is dominated by localized traffic and aircraft noise, which was monitored to be as high as 69.1 dBA L_{eq} at some locations. The results of the 15-minute short-term noise measurement survey, which included the measured L_{eq} levels and descriptions of localized noise sources at all 13 monitoring locations, are presented in **Table 3.12-1**. The results of the 48-long-term noise measurement survey are broken into two 24-hour periods showing the



SOURCE: USDA, 2012; ESA, 2015

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Figure 3.12-2
Noise Measurements

**TABLE 3.12-1.
15-MINUTE SHORT-TERM AMBIENT NOISE MONITORING RESULTS**

Monitor	Start time	L _{eq} (dBA)	L _{max} (dBA)	Primary Noise Source(s)
ST-1	7:08	51.2	61.2	Rockwell Lane
ST-2	8:42	63.8	80.8	Fiddymont Road
ST-3	7:34	62.3	75.0	SR 65, Nelson Lane
ST-4	7:57	67.7	88.4	Nelson Lane
ST-5	13:02	62.1	74.0	SR 65
ST-6	8:19	59.4	78.5	Moore Road
ST-7	9:07	65.1	88.7	Aircraft over flights, local traffic
ST-8	9:27	54.4	76.9	Aircraft over flights, Dowd Road
ST-9	9:50	56.2	76.3	Aircraft over flights, Dowd Road
ST-10	11:21	69.1	86.4	Aircraft over flights, Nicolaus Road
ST-11	11:46	43.7	52.8	Aircraft overflights, natural sounds
ST-12	12:19	62.1	80.7	Williams Lane
ST-13	10:36	49.9	66.1	Aircraft over flights, SR 65

SOURCE: ESA, 2015

24-hour L_{eq} and L_{dn}. The results of the 48-hour long-term noise measurement survey can be found in **Table 3.12-2**. All noise measurements were conducted using a Metrosonics Model db-308 sound level meter (SLM). The noise meter was calibrated before and after the noise measurement survey by ESA

**TABLE 3.12-2.
48-HOUR LONG-TERM AMBIENT NOISE MONITORING RESULTS**

Monitor	Day 1 ¹			Day 2 ²		
	24-Hour L _{eq} (dBA)	L _{dn} (dBA)	L _{max} (dBA)	24-Hour L _{eq} (dBA)	L _{dn} (dBA)	L _{max} (dBA)
LT-1	55	58.3	87.7	54.1	62.3	81.8

NOTES:

1 Day 1 noise measurement began on February 12, 2015 at 7:00 a.m. and ended on February 13, 2015 at 7:00 a.m.

2 Day 2 noise measurement began on February 13, 2015 at 7:00 a.m. and ended on February 14, 2015 at 7:00 a.m.

SOURCE: ESA, 2015

Existing Traffic Noise

As previously discussed, the primary contributor to the ambient noise environment within the proposed project area is vehicular traffic along Nelson Lane, SR 65, Moore Road, Nicolaus Road and Dowd Road. To evaluate the existing traffic noise levels in and around the vicinity of the Plan Area, a traffic noise assessment was conducted by ESA from February 12 to 14, 2015 as part of the ambient noise measurements. The traffic noise levels of the various roadway segments were calculated using the Federal Highway Administration's (FHWA) *Highway*

*Traffic Noise Prediction Model*⁵ and traffic volumes from the project transportation analysis. The results of this analysis can be found in **Table 3.12-3**, which shows the predicted traffic noise levels in terms of L_{dn} at a standardized distance of 100 feet from the centerlines of the existing roadways segments and distances to existing traffic noise contours. These contours include distances to the 70, 65 and 60 dBA L_{dn} .

**TABLE 3.12-3.
EXISTING TRAFFIC NOISE LEVELS AND DISTANCES TO ROADWAY CONTOURS**

Roadway Segment	L_{dn} @ 100 ft. ¹	Distance to L_{dn} Contours ³		
		70 dB	65 dB	60 dB
1. Fiddymment Rd, Baseline Rd to Pleasant Grove Blvd	62.9	34	73	157
2. Fiddymment Rd, Pleasant Grove to Blue Oaks Blvd	60.7	24	52	111
3. Fiddymment Rd, Blue Oaks Blvd to Sunset Blvd	57.2	14	30	65
4. Fiddymment Rd, Sunset Blvd to Athens Ave	57.1	14	30	64
5. Fiddymment Rd, Athens Ave to Catlett Rd	52.5	7	15	32
6. Fiddymment Rd, Catlett Rd to Moore Rd	52.1	6	14	30
7. Baseline Rd, east of Fiddymment Rd	60.8	24	52	112
8. Baseline Rd, west of Fiddymment Rd	58.3	17	36	77
9. Athens Ave, Fiddymment Rd to Industrial Ave	58.4	17	36	79
10. Industrial Ave, south of Athens Ave	48.1	3	8	16
11. Industrial Ave, Athens Ave to Twelve Bridges Dr	57.5	15	31	68
12. Industrial Ave, north of Twelve Bridges Dr	54.2	9	19	41
13. Lincoln Blvd, south of SR 65 SB On-Ramp	54.3	9	19	42
14. Lincoln Blvd, SR 65 NB On-Ramp to Sterling Pkwy	62.0	29	63	136
15. Lincoln Blvd, Sterling Pkwy to Ferrari Ranch Rd	61.5	27	59	127
16. Lincoln Blvd, Ferrari Ranch Rd to 1st St	60.7	24	52	111
17. Lincoln Blvd, 1st St to McBean Park Dr	59.7	21	45	96
18. Lincoln Blvd, McBean Park Dr to 7th St	59.0	18	40	85
19. Lincoln Blvd, North of 7th St	57.0	14	29	63
20. Ferrari Ranch Rd, west of Sorrento Pkwy	53.3	8	17	36
21. Ferrari Ranch Rd, Sorrento Pkwy to Caledon Cir	56.3	12	26	56
22. Ferrari Ranch Rd, Caledon Cir to SR 65 SB Ramp	61.3	26	57	122
23. Ferrari Ranch Rd, SR 65 NB On-Ramp to Joiner Pkwy	61.8	28	61	132
24. Ferrari Ranch Rd, Joiner Pkwy to Lincoln Blvd	56.8	13	28	61
25. Ferrari Ranch Rd, east of Lincoln Blvd	57.8	15	33	72
26. Joiner Pkwy, south of Nicolaus Rd	57.6	15	32	70
27. Joiner Pkwy, Nicolaus Rd to 1st St	58.9	18	39	84

⁵ Barry, T.M. and J.A. Regan, 1978. FHWA Highway Traffic Noise Prediction Model (FHWA-RD-77-108). December 1978.

**TABLE 3.12-3.
EXISTING TRAFFIC NOISE LEVELS AND DISTANCES TO ROADWAY CONTOURS**

Roadway Segment	L _{dn} @ 100 ft. ¹	Distance to L _{dn} Contours ³		
		70 dB	65 dB	60 dB
28. Joiner Pkwy, 1st St to Ferrari Ranch Rd	60.1	22	47	101
29. Joiner Pkwy, South of Ferrari Ranch Rd	56.8	13	28	61
30. Nicolaus Rd, west of Dowd Rd	53.0	7	16	34
31. Nicolaus Rd, Dowd Rd to Airport Rd	53.1	7	16	35
32. Nicolaus Rd, Airport Rd to Nelson Ln	53.4	8	17	36
33. Nicolaus Rd, Nelson Ln to Teal Hollow Dr	56.9	13	29	62
34. Nicolaus Rd, Teal Hollow Dr to Lakeside Dr	56.7	13	28	60
35. Nicolaus Rd, Lakeside Dr to 7th St	57.6	15	32	69
36. Moore Rd, north of Sorrento Pkwy	49.3	4	9	19
37. Moore Rd, Sorrento Pkwy to Nelson Ln	49.2	4	9	19
38. Moore Rd, Nelson Ln to Fiddymment Rd	51.9	6	13	29
39. Moore Rd, Fiddymment Rd to Dowd Rd	46.5	3	6	13
40. Moore Rd, west of Dowd Rd	44.7	2	4	10
41. Dowd Rd, Moore Rd to B St	44.3	2	4	9
42. Dowd Rd, B St to Rachel Ave	44.3	2	4	9
43. Dowd Rd, Rachel Ave to Mavis Ave	44.3	2	4	9
44. Dowd Rd, Mavis Ave to Nicolaus Rd	44.3	2	4	9
45. Dowd Rd, north of Nicolaus Rd	44.3	2	4	9
46. Old Nelson Ln, Moore Rd to SR 65	49.9	5	10	21
47. Old Nelson Ln, SR 65 to Nicolaus Rd	57.5	15	32	68
48. SR 65, North of Riosa Rd	66.5	58	126	271
49. SR 65, Riosa Rd to Wise Rd	65.4	50	107	230
50. SR 65, Wise Rd to Nelson Ln	65.4	49	106	229
51. SR 65, south of Nelson Ln	66.4	58	125	268

NOTES:

1. Noise levels were determined using FHWA Traffic Noise Prediction Model (FHWA RD-77-108).
2. Distance to traffic noise contours are measured in feet from the centerlines of the roadways.
3. Noise contour distances less than approximately 9 feet from the centerline of a rural roadway and 80 feet from the centerline of State Route 65 are within the roadway's Right-Of-Way.

SOURCE: ESA, 2015

3.12.2 Regulatory Setting

Federal Regulations

There are no federal regulations relevant to noise that would apply to this project.

State Regulations

The State of California establishes noise limits for vehicles licensed to operate on public roads. For heavy trucks, the state pass-by standard is consistent with the federal limit of 80 dB. The state pass-by standard for light trucks and passenger cars (less than 4.8 tons, gross vehicle rating) is also 80 dBA at 15 meters from the roadway centerline. These standards are implemented through controls on vehicle manufacturers and by legal sanction of vehicle operators by state and local law enforcement officials.

The state has also established noise insulation standards for new multi-family residential units, hotels and motels that would be subject to relatively high levels of transportation-related noise. These requirements are collectively known as the California Noise Insulation Standards. The noise insulation standards set forth an interior standard of DNL 45 dBA in any habitable room. Title 24 standards are typically enforced by local jurisdictions through the building permit application process.

Local Regulations

City of Lincoln 2050 General Plan

Chapter 8, Health and Safety of the City of Lincoln 2050 General Plan was amended in March 2008 and contains the following relevant noise goals and policies:

Goal HS-8 To protect residents from health hazards and annoyance associated with excessive noise levels.

Policies

- HS-8.1 **Noise Sensitive Receptors.** The City will allow the development of new noise-sensitive land uses (which include but are not limited to residential, health care facilities and schools) only in areas exposed to existing or projected levels of noise which satisfy the levels specified in [Table 3.12-4]. Noise mitigation measures spaces to levels specified in [Table 3.12-4].
- HS-8.2 **Protect Residential Areas.** The City will strive to achieve exterior noise levels for existing and future dwellings in residential areas that do not exceed exterior noise levels of 60 dBA L_{dn} /CNEL and interior noise levels of 45 dBA L_{dn} /CNEL.
- HS-8.8 **Construction Noise.** The City will provide guidelines to developers for reducing potential construction noise impacts on surrounding land uses.
- HS-8.9 **Noise Compatibility Guidelines.** The City shall use adopted noise compatibility guidelines to evaluate compatibility of proposed new development and ensure compatibility between residential, commercial and other surrounding land uses (See [Table 3.12-4]).
- HS-8.10 **Sound Attenuation Features.** The City shall require sound attenuation features such as walls, berming, and heavy landscaping between commercial and industrial uses and residential uses to reduce noise and vibration. Setback distances may also be used to reduce noise.
- HS-8.11 **Noise Buffering.** The City shall require a variety of sound attenuation features (including noise buffering or insulation) in new development along major streets and highways, and along railroad tracks.

**TABLE 3.12-4.
LAND USE COMPATIBILITY GUIDELINES FOR DEVELOPMENT (L_{dn})
CITY OF LINCOLN GENERAL PLAN NOISE ELEMENT**

Locations	Normally Acceptable	Conditionally Acceptable	Normally Unacceptable	Unacceptable
Residential - Low Density Single Family, Duplex, Mobile Homes	≤ 60	61 - 70	71 - 75	≥ 75
Residential - Multiple Family, Group Homes	≤ 60	61 - 70	71 - 75	≥ 75
Motels/Hotels	≤ 60	61 - 70	71 - 80	≥ 80
Schools, Libraries, Churches, Hospitals, extended Care Facilities	≤ 60	61 - 70	71 - 80	≥ 80
Auditoriums, Concert Halls, Amphitheaters	≤ 65	NA	66 - 70	≥ 70
Sports Arenas, Outdoor Spectator Sports	≤ 70	NA	71 - 75	≥ 75
Playgrounds, Neighborhood Parks	≤ 70	NA	NA	≥ 70
Golf Courses, Riding Stables, Water Recreation, Cemeteries	≤ 70	NA	71 - 80	≥ 80
Office Buildings, Business Commercial and Professional	≤ 65	66 - 75	75 - 81	NA
Industrial, Manufacturing, Utilities, Agriculture	≤ 70	71 - 80	≥ 81	NA

NOTES:

1. Normally Acceptable: Specified land use is satisfactory, based on the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.
2. Conditionally Acceptable: New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed insulation features have been included in the design.
3. Normally Unacceptable: New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design. Outdoor areas must be shielded.
4. Unacceptable: New construction or development should not be undertaken.

SOURCE: City of Lincoln, 2008. City of Lincoln 2050 General Plan. Adopted March 25, 2008. Noise Element.

- HS-8.14 **Noise Analysis.** The City shall require noise analysis of proposed development projects as part of the environmental review process and to require mitigation measures that reduce noise impacts to acceptable levels. The noise analysis shall:
- Be the responsibility of the applicant;
 - Be prepared by a qualified person experienced in the fields of environmental noise assessment and architectural acoustics;
 - Include representative noise level measurements with sufficient sampling periods and locations to adequately describe local conditions;
 - Estimate existing and projected noise levels in terms of Ldn/CNEL and compare the levels to the adopted policies of the City's General Plan;
 - Recommend appropriate mitigation to achieve compatibility with the adopted noise policies and standards of the City's General Plan. Where the noise source in question consists of intermittent single events, the acoustical analysis must address the effects of maximum noise levels in sleeping rooms in terms of possible sleep disturbance;
 - Estimate noise exposures after the prescribed mitigation measures have been implemented. If the project does not comply with the adopted standards and policies of the City's General Plan, the analysis must provide acoustical information for a statement of overriding considerations for the project; and,
 - Describe a post-project assessment program, which could be used to evaluate the effectiveness of the proposed mitigation measures.

- HS-8.15 **Limiting Construction Activities.** The City shall establish restrictions regarding the hours and days of construction activities throughout the City.

The relationship of these 2050 General Plan policies to the V5SP is included in Chapter 5, General Plan Consistency.

Placer County Comprehensive Airport Land Use Plan

The current Placer County comprehensive Airport Land Use Plan (ALUP) was adopted by the Placer County Airport Land Use Commission (ALUC) on February 26, 2014. It contains the same standards that are presented in the Land Use Compatibility Guidelines for the City of Lincoln General Plan Noise Element (see Table 3.12-4). The following noise compatibility policies apply to the project:

Policies

- 3.3.1. **Noise Maximum Acceptable Exterior Noise Exposure:** To minimize Noise-Sensitive development in noisy areas around an Airport, new land use development shall be restricted in accordance with the following:
- a) The maximum CNEL considered normally acceptable for residential uses in the vicinity of an Airport is 60 dBA. The CNEL 60 dB contour is one of the factors considered in establishing the Compatibility Zone boundaries and residential Density criteria. For the purposes of implementing this policy:
 - 1) No new dwelling shall be permitted within Compatibility Zone A (see Figure 3.12-2).
 - 2) The maximum Density of residential uses in Compatibility Zones B1, B2 and C1 (see Figure 3.11-4 in the Land Use Chapter) shall be limited to the basic compatibility criteria shown in **Table 3.12-5**.
 - 3) Within Compatibility Zones C2 and D (see Figure 3.11-4 in the Land Use Chapter), the Density of new residential development is not limited.
 - 4) A parcel on which residential uses are permitted by right in accordance with the Basic Compatibility Criteria and by local land use regulations within Compatibility Zones B1, B2 or C1 (see Figure 3.11-4 in the Land Use Chapter) shall locate the dwelling outside of the zones when feasible or locate the dwelling a maximum distance from the extended runway centerline.
 - b) New nonresidential development shall be deemed incompatible in locations where the airport-related noise exposure would be highly disruptive to the specific land use.

**TABLE 3.12-5.
BASIC COMPATIBILITY CRITERIA PLACER COUNTY ALUCP**

Intensity Criteria	Compatibility Zones					
	A	B1	B2	C1	C2	D
Max. Statewide Average Intensity (People/Acre)	0	60	100	150	300	No Limit
Max. Single-Acre Intensity (People/Acre)	0	120	300	450	1,200	No Limit
Open Land Requirement	100%	25%	No Req.	15%	10%	No Req.

SOURCE: Placer County. 2014. Placer County Airport Land Use Compatibility Plans – Containing Individual Plan for: Auburn Municipal Airport, Blue Canyon Airport, Lincoln Regional Airport. Adopted February 26, 2014.

- 1) Highly Noise-Sensitive Land Uses are flagged with an aircraft symbol in the Basic Compatibility Criteria table for each airport.
- 2) Caution must be exercised with regard to approval of outdoor uses—the potential for aircraft noise to disrupt the activity shall be taken into account.
- 3) Uses that are primarily indoor are acceptable if sound attenuation is provided in accordance with Policy 3.3.2 and as noted in the Basic Compatibility Criteria table for each airport.

- 3.3.2. **Maximum Acceptable Interior Noise Levels:** To minimize disruption of indoor activities by aircraft noise, new structures within Compatibility Zones B1, B2 and C1 (see Figure 3.11-4 in the Land Use Chapter) shall incorporate sound attenuation design features sufficient to meet the interior noise level criteria specified by this policy. All future structures outside of these Compatibility Zones are presumed to meet the interior noise level requirement with no special added construction techniques.
- a) For the following land uses, the aircraft-related interior noise level shall be no greater than CNEL 45 dBA by ensuring a noise level reduction (NLR) of 25 dB in Compatibility Zones B1 and B2 (see Figure 3.11-4 in the Land Use Chapter) and a NLR of 20 dB in Compatibility Zone C1.
 - 1) Any habitable room of single or multi-family residences (including family day care homes with 14 or fewer children);
 - 2) Hotels, motels, and other long-term and short-term lodging;
 - 3) Hospitals, nursing homes and other congregate care facilities;
 - 4) Places of worship, meeting halls, theaters, and mortuaries; and
 - 5) Schools, libraries, and museums.
 - b) When structures are part of a proposed Land Use Action, evidence that proposed structures will be designed to comply with the criteria in Paragraph (a) of this policy shall be submitted to the involved Local Agency as part of the building permit process. The calculations should assume that windows are closed. The Local Agency shall be responsible for assuring compliance.
 - c) Exceptions to the interior noise level criteria in Paragraphs (a) and (b) of this Policy may be allowed where evidence is provided that the indoor noise generated by the use itself exceeds the listed criteria.
- 3.3.3. **Noise-Sensitive Land Uses:** Single-event noise levels should be considered when evaluating the compatibility of highly Noise-Sensitive Land Uses such as residences, schools, libraries, and outdoor theaters. Susceptibility to speech interference and sleep disturbance are among the factors that make certain land uses noise sensitive. The compatibility evaluations in the Basic Compatibility Criteria table for each airport take into account single-event noise concerns.
- a) The ALUC may require acoustical studies or on-site noise measurements to assist in determining the compatibility of Land Use Actions involving Noise-Sensitive Land Uses.
- 3.3.4. **Noise Criteria for Mixed-Use Development:** The residential and nonresidential components of a mixed-use development shall individually satisfy the noise criteria set forth in Policies 3.3.1, 3.3.2, and 3.3.3 if the development contains Noise-Sensitive Land Uses.

City of Lincoln Municipal Code

The City of Lincoln Municipal Code Chapter 9.04 does not provide exterior noise limits for construction and stationary sources. The chapter only addresses noise from sound-emitting devices such as sound system, loudspeaker and radios. Consequently, none of the provisions of the City of Lincoln Municipal Code are relevant to the project.

3.12.3 Analysis, Impacts, and Mitigation

Significance Criteria

The significance criteria for this analysis were adapted from criteria presented in Appendix G of the State CEQA Guidelines. The proposed project would result in a significant impact if it would:

- Expose persons to, or generate, noise levels in excess of standards established in the local general plan or noise ordinance or applicable standards of other agencies;
- Result in a substantial permanent increase in ambient noise levels in the proposed project vicinity above levels existing without the proposed project;
- Result in a substantial temporary or periodic increase in ambient noise levels in the proposed project vicinity above levels existing without the proposed project;
- Expose people residing or working in the proposed project area to excessive noise levels (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);
- Expose people residing or working in the proposed project area to excessive noise levels (for a project within the vicinity of a private airstrip); or
- Expose persons to, or generate, excessive groundborne vibration or groundborne noise levels.

Methodology and Assumptions

The analysis in this section focuses on the anticipated increases in ambient noise levels at existing and future on- and off-site noise-sensitive land uses with the implementation of the full build out of the V5SP.

An analysis of the temporary construction noise effects on nearby noise-sensitive land uses was assessed using methodology outlined in FHWA's *Road Construction Noise Model (RCNM) User's Guide*.⁶ FHWA recommends use of the RCNM for predicting noise generated from construction activities similar to those that would occur under the proposed project. The RCNM User's Guide was used to calculate noise levels (L_{max} and L_{eq}) at incremental distances for a variety of construction activities. This analysis is based on typical construction phases that would be implemented during the construction within the Plan Area and equipment noise levels that are attenuated to nearest noise-sensitive land use. The construction-related noise levels were modeled to gauge whether or not they would exceed the City of Lincoln General Plan noise level thresholds, warranting implementation of construction noise control measures.

Noise levels were calculated for local roadway segments that would result in increased traffic volumes due to the proposed project. The traffic noise levels were calculated from a reference distance of 100 feet for existing, existing plus project, cumulative and cumulative plus project

⁶ Federal Highway Administration, 2006. FHWA Roadway Construction Noise Model User's Guide. January 2006.

conditions. Traffic noise impacts were assessed using the FHWA Highway Traffic Noise Prediction Model⁷ and estimated project traffic volumes provided by Fehr & Peers.⁸ The FHWA Highway Traffic Noise Prediction Model is a national standard for predicting noise generated by vehicle traffic. The model is based upon the California Vehicle Noise (Calveno) reference energy mean emission levels (Remels)⁹ for automobiles, medium trucks and heavy trucks, with consideration given to roadway volume and vehicle speed. Assumptions and details can be found in Appendix E of this EIR. Noise impacts from transportation on existing or proposed land uses would be considered significant if they would exceed the criteria set forth in the bullets below.

The proposed project land uses in vicinity to the Lincoln Regional Airport were compared to the Placer County ALUCP's established Compatibility Zones presented in Figure 3.11-3 in Section 3.11, Land Use and Planning. These Compatibility Zones each have their own restrictions as to how many residential dwellings can be constructed in each zone, which is based on specific noise, safety, airspace protection, overflight and other compatibility policies created by the County. For example, (as shown in Table 3.12-5) in Compatibility Zone A (see Figure 3.11-4 in the Section 3.11, Land Use and Planning) noise levels are expected to exceed the maximum allowed day night noise level of 60 dBA L_{dn} , therefore new homes are not allowed to be constructed within this area. Land uses that do not conform to the Placer County ALUCP would be exposed to excessive aircraft noise and would result in a significant impact.

For the purposes of this assessment, the methodology described in the Caltrans' *Transportation and Construction Vibration Guidance Manual*¹⁰ was used to evaluate project-related vibration effects to nearby sensitive land uses. This Caltrans guidance manual focuses entirely on addressing vibration from construction activities. Impact pile driving may occur during the construction of the following bridges: New Nelson Road Bridge over Auburn Ravine, Nelson Road Bridge over Markham Ravine, Moore Road Bridge over Auburn Ravine, and Dowd Road Bridge across Markham Ravine. Impact pile driving is considered a continuous/frequent intermittent source.¹¹ According to the Caltrans' *Transportation and Construction Vibration Guidance Manual*, the building damage threshold for historic and some older buildings is 0.3 in/sec PPV and the vibration threshold where vibration level increases are considered strongly perceptible is 0.10 in/sec PPV for continuous/frequent intermittent sources. On- and off site sensitive receptors exposed to construction vibration levels exceed either of these thresholds is considered a significant impact.

⁷ Federal Highway Administration, 1978. FHWA Traffic Noise Prediction Model (FHWA-RD-77-108). December 1978.

⁸ Fehr & Peers, 2015. Village 5 Specific Plan EIR – Peak Hour Volumes and Analysis. April 29, 2015.

⁹ California Department of Transportation, 1995. Use of California Vehicle Noise Reference Energy Mean Emissions Levels (Calveno REMELS) in STAMINA2.- FHWA Highway Traffic Noise Prediction Program. September 22, 1995.

¹⁰ California Department of Transportation, 2013. Transportation and Construction Vibration Guidance manual. September 2013.

¹¹ Ibid.

Non-transportation operational activities at the proposed project site, including operation of heating, ventilation and air-conditioning systems (HVAC) units, the use of loading docks, school uses, and park uses were also evaluated. Typical hourly noise levels generated during these operations (i.e., HVAC, loading docks) were used to calculate a day-night noise level (L_{dn}) at a reference distance of 100 feet, assuming they are running for a full 24 hour period. These calculated noise levels (L_{dn}) were then compared the City of Lincoln Land Use Compatibility Guidelines (see Table 3.12-4). Assumptions and details can be found in Appendix E.

Neither the City's Municipal Code nor its General Plan contains thresholds by which to measure substantial increases in noise. Accordingly, to determine whether proposed project-related activities would substantially increase existing ambient noise levels, the same criteria used in the EIR for the adopted City of Lincoln 2050 General Plan to define a significant noise impact was used in this analysis, as follows:¹²

- If the noise level resulting from implementation of the proposed project exceeds the “normally acceptable” range (see Table 3.12-4) for a given land use where the existing noise level exceeds the normally acceptable range, a 3 dB or greater increase due to the project is considered significant.
- If the noise level resulting from implementation of the proposed project exceeds the “normally acceptable” range (see Table 3.12-4) for a given land use where the existing noise level is within the normally acceptable range, a 5 dB or greater increase due to the project is considered significant.
- If the noise level resulting from implementation of the proposed project is within the “normally acceptable” range (see Table 3.12-4) for a given land use, a 10 dB or greater increase due to the project is considered significant.

The above criteria varies based on the compatibility of proposed land uses within a given existing noise environment and therefore, are most applicable to long-term noise exposure. A sliding scale is commonly used for the purpose of assessing changes in ambient noise levels as a result of a project, allowing greater increase at lower absolute sound levels than at higher levels. As described in Section 3.12.1 above, a 3 dB noise increase is barely perceptible to the average healthy ear and a 5 dB increase is readily perceptible. A 10 dB change is subjectively heard as approximately a doubling in loudness and can cause an adverse response.

There are no applicable local policies or standards available under either the City of Lincoln General Plan or Municipal Code to quantitatively assess the significance of short-term increases in noise levels from construction activities over the existing conditions in the City of Lincoln. For the purposes of assessing short-term construction noise, construction activities were compared to the allowed construction hours as defined under the City of Lincoln's Public Facilities Improvement Standards, which are between the hours of 7:00 a.m. to 7:00 p.m. Monday through

¹² City of Lincoln, 2006. City of Lincoln General Plan Update Draft Environmental Impact Report. SCH# 2005112003. October 2006.

Friday.¹³ Work between 8:00 a.m. to 5:00 p.m. on Saturday, Sunday and Holidays requires a written request to the Director of Public Works/City Engineer 72-hours prior to the desired construction.¹⁴ Onsite construction activities that occur outside of these hours, when the existing ambient is at its lowest, could substantially elevate ambient noise levels at nearby sensitive receptors that would result in a significant impact.

Impacts and Mitigation Measures

Impact 3.12-1: Construction of the proposed project could temporarily increase ambient noise levels.

Full Specific Plan

Construction activity noise levels at the project site would fluctuate depending on the particular type, number and duration of use of various pieces of construction equipment. As discussed in Chapter 2, Project Description, the proposed project is anticipated to be developed over a 15- to 25-year period. The first areas of the project site to develop would be those that are closest to existing infrastructure and are in proximity to SR 65. Additional development phases may move forward independently and in any order after the initial development phase, provided that parcels meet the City's public services requirements and the sequencing policies outlined in the Specific Plan. Construction activities associated with the proposed project would involve excavation, grading and earth movement. Impact pile driving may occur during the construction of the following bridges: New Nelson Road Bridge over Auburn Ravine, Nelson Road Bridge over Markham Ravine, Moore Road Bridge over Auburn Ravine and Dowd across Markham Ravine.

Table 3.12-6 shows typical noise levels during different construction stages.

**TABLE 3.12-6.
TYPICAL CONSTRUCTION NOISE LEVELS**

Construction Phase	Noise Level ^a (dBA, L _{eq})
Ground clearing	84
Excavation	89
Foundations	78
Erection	85
Finishing	89
Impact Pile Driving	88

NOTES:

a Average noise levels correspond to a distance of 50 feet from the noisiest piece of equipment associated with a given phase of construction and 200 feet from the rest of the equipment associated with that phase.

dBA = A-weighted decibels, L_{eq} = average noise exposure level for the given time period

SOURCES: Bolt, Baranek, and Newman, 1971. Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances. December 31, 1971; Cunniff, Patrick, 1977. Environmental Noise Pollution. May 4, 1977; Federal Highway Administration, 2006. FHWA Roadway Construction Noise Model User's Guide. January 2006.

¹³ City of Lincoln, Department of Public Works, 2004. Public Facilities Improvement Standards. June 2004. Available: <http://lincolnca.gov/home/showdocument?id=1468>. Accessed June 28, 2016.

¹⁴ Ibid.

Full buildout of the proposed Specific Plan would generate a significant amount of noise corresponding to the appropriate phase of building construction and the noise generating equipment used during those phases.

The nearest off-site noise-sensitive land use to the proposed project is located within approximately 100 feet of the project's north-western boundary. Noise from construction activities generally attenuates at a rate of 6 dB per doubling of distance.¹⁵ Assuming an attenuation rate of 6 dB per doubling of distance, the nearest noise-sensitive land use to the project site during excavation activities could be exposed to a maximum noise level of approximately 82 dBA L_{eq} along the north-eastern perimeter of the Plan Area. A 15-minute short-term noise measurement was conducted at this noise-sensitive land use (see Table 3.12-1), where daytime ambient noise levels were found to be 43.7 dBA L_{eq} . The ambient noise level at this noise-sensitive land use during excavation activities would be increased by more than 10 dB. In addition, existing noise-sensitive land uses within the project site could be as close as 50 feet from construction activities, which would be exposed to noise levels as high as 89 dBA L_{eq} during excavation and finishing phases of construction. These noise levels would be a substantial increase over existing noise levels at the nearest sensitive receptors within and near the Plan Area.

As the proposed project is incrementally built out over the course of 15 to 25 years, future residential buildings constructed in earlier phases of construction could be occupied and could be exposed to construction noise from subsequent construction phases. These future onsite residences could be located within 50 feet from where onsite construction activities would occur and could also be exposed to noise levels as high as 89 dBA L_{eq} during excavation or finishing phases of construction. Although future ambient noise levels would be higher compared to existing conditions (e.g., increase in traffic noise, as quantified in Impact 3.12-3), these increases in noise levels from onsite construction would still be a substantial increase over predicted at future onsite sensitive receptors. Therefore, construction noise is considered to be a **short-term potentially significant impact**.

Area A

During the construction of Area A, noise levels would be produced by construction activities similar to those found in Table 3.12-6, which includes excavation, grading and earth movement. Area A is located in the center of the Plan Area, and is bounded by Markham Ravine and SR 65 to the north, Auburn Ravine to the south, Dowd Road to the west, and Nelson Lane to the east. The existing land uses within Area A consist of scattered rural residential and agricultural uses. The nearest sensitive receptor outside of Area A is located approximately 170 feet southeast from the boundary of Area A, across Dowd Road. There are existing land uses within Area A consisting of scattered rural residential and agricultural uses.

¹⁵ California Department of Transportation, 2013. Technical Noise Supplement to the Traffic Noise Analysis Protocol. September 2013.

Assuming an attenuation rate of 6 dB per doubling of distance, the nearest noise-sensitive land use to Area A during excavation activities could be exposed to a maximum noise level of approximately 76 dBA L_{eq} along the southeast perimeter of the Area A project area. One 15-minute short-term noise measurement was conducted near noise-sensitive land uses adjacent to Area A along Moore Road (see Table 3.12-1), where daytime ambient noise levels were found to be 59.4 dBA L_{eq} . These measured ambient noise levels at this noise-sensitive land uses during excavation activities would be increased by more than 10 dB at the nearest residences. Therefore, construction noise is considered to be a **short-term potentially significant impact**.

Mitigation Measure

Mitigation Measure 3.12-1 (Full Specific Plan and Area A)

The City shall ensure construction contractors for each project phase comply with the following mitigation measures:

- a) *Construction hours shall be limited to those allowed in the City's Public Facilities Improvement Standards between 7:00 a.m. to 7:00 p.m., Monday through Friday. If construction is necessary on Sunday and Holidays the applicant shall submit a written request to the Director of Public Works or City Engineer, as applicable, 72-hours prior to the desired construction. If work is allowed outside aforementioned work hours, the applicant shall have a copy of the written approval available at the work site.*
- b) *All heavy construction equipment and all stationary noise sources (such as diesel generators) shall have manufacturer-installed mufflers.*
- c) *Equipment warm up areas, water tanks and equipment storage areas shall not be located closer than 200 feet from existing residences.*
- d) *Applicant shall provide two weeks advanced notice to all residences located within 300 feet of construction activities, including the approximate start date and duration of such compaction activities.*
- e) *Impact tools (e.g., jack hammers, pavement breakers, and rock drills) used for proposed project construction shall be hydraulically or electrically powered where available to avoid noise associated with compressed air exhaust from pneumatically powered tools. Where use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used; this muffler can lower noise levels from the exhaust by up to about 10 dBA. External jackets on the tools themselves shall be used where available; this could achieve a reduction of 5 dBA.*

- f) *Appropriately sized noise barriers or shielding shall be erected for construction work involving heavy duty construction equipment if occurring within 300 feet of receptors for an extended period of time (more than 2 weeks).*

Impact Significance after Mitigation: Implementation of Mitigation Measure 3.12-1 would reduce construction noise levels at the existing noise-sensitive land uses located near and within Full Specific Plan and Area A areas. It is possible that noise barriers and shielding could have aesthetic impacts, but these impacts would be similar to other aesthetic impacts during construction and would be short-term and less than significant. Since there is generally an increase in ambient noise during the daytime hours (e.g., traffic, off-road agricultural equipment or aircraft noise), limiting the hours of construction to the allowed construction hours in the City's Public Facilities Improvement Standards between 7:00 a.m. to 7:00 p.m., Monday through Friday, would reduce the potential for a nuisance because project construction-related noise increases would be less noticeable over the existing daytime ambient. Therefore, with implementation of construction noise mitigation and compliance with construction hours this impact would be **less than significant**.

Impact 3.12-2: Construction of the proposed project would result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.

Full Specific Plan

Vibration impacts are considered significant if vibration levels would either result in damage to nearby structures or buildings, or result in an annoyance to sensitive land uses. Groundborne noise occurs when vibrations transmitted through the ground result in secondary radiation of noise. Groundborne noise is generally associated with transit trains through tunnels and underground blasting activities, neither of which is proposed as part of this project. Therefore, this analysis is focused on groundborne vibration.

The proposed project is anticipated to be developed over a 15 to 25 year period. The first areas of the project site to be developed would be Area A and those that are closest to existing infrastructure and are in proximity to SR 65. Additional development phases would move forward independently and in any order after the initial development phase, provided that parcels meet the City's public services requirements and the sequencing policies outlined in the Specific Plan. Construction activities during the initial and future phases would be similar, including excavation, site preparation work, foundation work, bridge construction, and new building framing and finishing. Construction activities may generate perceptible vibration when heavy equipment or impact tools such as jackhammers or hoe rams are used in close proximity to occupied uses. Impact pile driving may occur during the construction of the following bridges: New Nelson Road Bridge over Auburn Ravine, Nelson Road Bridge over Markham Ravine, Moore Road Bridge over Auburn Ravine, and Dowd Road Bridge across Markham Ravine. Onsite impact pile driving is expected to generate the highest vibration levels during construction.

The potential use of impact pile driving equipment during the construction of the proposed bridges would be expected to generate the highest vibration levels of all of the construction phases. Impact pile drivers typically generate vibration levels of 0.65 in/sec PPV at a distance of 25 feet.¹⁶

The use of impact pile drivers near existing and future residential receptors could result in strongly perceptible vibration levels that could be considered an annoyance. The proximity of existing and future sensitive receptors to where impact pile driving could occur at the onsite bridges crossing Markham Ravine and Auburn Ravine is unknown at this time. According to the Caltrans' *Transportation and Construction Vibration Guidance Manual*,¹⁷ the threshold at which the average person would characterize vibration as strongly perceptible is 0.10 in/sec PPV for continuous/frequent intermittent sources. Based on a vibration level of 0.65 in/sec PPV from a distance of 25 feet from an impact pile driver, residences located within 90 feet would be exposed to vibration levels that would be strongly perceptible and could result in an annoyance. If impact pile driving equipment were to be used at the onsite bridges crossing Markham Ravine and Auburn Ravine, it would be short-term and temporary. However, since the locations of existing and future onsite residences relative to the proposed bridge crossings are unknown at this time, it is possible that residences could be located within 90 feet from where impact pile driving may occur. Therefore, this would result in a **potentially significant impact**.

With respect to building damage, existing and future onsite residences located near where impact pile driving may occur at the onsite bridges crossing Markham Ravine and Auburn Ravine could be exposed to vibration levels that could result in building damage. According to the Caltrans' *Transportation and Construction Vibration Guidance Manual*,¹⁸ the building damage threshold for older residential buildings is 0.3 in/sec PPV for continuous/frequent intermittent sources. As previously stated, the locations of impact pile driving may occur at the onsite bridges is unknown at this time. Based on a vibration level of 0.65 in/sec PPV from a distance of 25 feet from an impact pile driver, residences located within 45 feet would be exposed to vibration levels of 0.3 in/sec PPV which could result in possible building damage. However, the impact pile driving is expected to occur well within the project construction areas at the onsite bridges, and it is unlikely that there would be any existing or future sensitive structures within 45 feet from where onsite impact pile driving would occur given roadway setbacks, residential building setbacks, and the widths of the ravines. Therefore, vibration impacts to nearby buildings would be **less than significant**.

¹⁶ California Department of Transportation, 2013. *Transportation and Construction Vibration Guidance manual*. September 2013.

¹⁷ Ibid.

¹⁸ Ibid.

Area A

Construction activities within Area A would be similar to those proposed in the Full Specific Plan, which includes excavation, site preparation work, foundation work, and new building framing and finishing. These construction activities may generate perceptible vibration when heavy equipment or impact tools such as jackhammers or hoe rams are used. Construction of Area A would not require the demolition of any existing buildings and would not require pile driving, which can cause excessive vibration. As previously discussed above, it is possible that impact pile driving would be necessary during the construction onsite bridges. Onsite impact pile driving during bridge construction is expected to generate the highest vibration levels.

The use of impact pile drivers near existing and future residential receptors could result in an annoyance. As discussed under the Full Specific Plan, it is possible that existing or future onsite residences could be located within 90 feet of impact pile driving operations during the construction of the onsite bridges crossing Markham Ravine and Auburn Ravine, exposing people to vibration levels above 0.10 in/sec PPV, the threshold at which the average person would characterize vibration as strongly perceptible. Therefore, this impact would result in a **potentially significant impact**.

With respect to building damage, there may be existing and future onsite residences within Area A located near where impact pile driving may occur at the onsite bridges crossing Markham Ravine. These residential buildings could be exposed to vibration levels that could result in building damage. As discussed under the Full Specific Plan, residential buildings located within 45 feet would be exposed to vibration levels that would result in possible building damage. However, the impact pile driving is expected to occur well within the project construction areas at the onsite bridges, and it is unlikely that there would be any existing or future sensitive structures within 45 feet from where onsite impact pile driving would occur given roadway setbacks, residential building setbacks, and the widths of the ravines. Therefore, vibration impacts to nearby buildings would be **less than significant**.

Mitigation Measure

Mitigation Measure 3.12-2 (Full Specific Plan and Area A)

Implement Mitigation Measure 3.12-1.

Impact Significance after Mitigation: Implementation of Mitigation Measure 3.12-1 would restrict pile driving to daytime hours when nearby receptors would be less sensitive to vibration annoyance. This measure would also require notification of the construction schedule to receptors within 50 feet of the proposed work. Together, these measures would reduce the perception of the vibration since local residences would be more active during these times. However, groundborne vibration impacts may not be totally avoided if sensitive receptors are close to sources of vibration. Therefore, this impact would be **significant and unavoidable**.

Impact 3.12-3: Implementation of the proposed project would expose noise-sensitive land uses to transportation noise levels in excess of the City of Lincoln General Plan noise standard or result in a substantial permanent increase in ambient transportation-related noise above existing levels.

Full Specific Plan

Roadway Traffic Noise Impacts on Existing Uses

Development of the full V5SP would introduce additional traffic volumes to local roadways and create new roadways within the project site. These new roadways include Rachel Avenue, Mavis Avenue, B Street, A Street, Ruth Avenue and New Nelson Lane. This would result in increased traffic noise levels that could potentially adversely affect adjacent noise-sensitive land uses. As shown in **Table 3.12-7**, traffic noise levels were predicted at a represented distance of 100 feet from roadway centerline for existing and future with- project and no-project conditions. The traffic noise increases associated with the full build-out of the Lincoln 5 Specific Plan would range between -0.8 to +16.2 dB relative to existing conditions. The existing noise-sensitive land uses affected by these increases in traffic noise are rural residential.

**TABLE 3.12-7.
EXISTING TRAFFIC NOISE LEVELS WITH AND WITHOUT FULL BUILDOUT
(DNL, dBA, 100 FEET FROM ROADWAY CENTERLINES)**

Roadway Segment	Traffic Noise Level, dBA, L_{dn}^1						Exceed 60 L_{dn}^3 ? (Yes or No)
	Existing	Existing + Full Specific Plan	Incremental Increase	Incremental Increase Significance Threshold	Significant Increase? (Yes or No) ²		
1. Fiddymment Rd, Baseline Rd to Pleasant Grove Blvd	62.9	63.5	0.5	3.0	No	Yes	
2. Fiddymment Rd, Pleasant Grove to Blue Oaks Blvd	60.7	61.5	0.8	3.0	No	Yes	
3. Fiddymment Rd, Blue Oaks Blvd to Sunset Blvd	57.2	59.5	2.3	10.0	No	No	
4. Fiddymment Rd, Sunset Blvd to Athens Ave	57.1	60.1	3.0	5.0	No	Yes	
5. Fiddymment Rd, Athens Ave to Catlett Rd	52.5	59.5	7.0	10.0	No	No	
6. Fiddymment Rd, Catlett Rd to Moore Rd	52.1	58.1	6.0	10.0	No	No	
7. Baseline Rd, east of Fiddymment Rd	60.8	60.8	0.1	3.0	No	Yes	
8. Baseline Rd, west of Fiddymment Rd	58.3	58.4	0.1	10.0	No	No	
9. Athens Ave, Fiddymment Rd to Industrial Ave	58.4	58.8	0.3	10.0	No	No	
10. Industrial Ave, south of Athens Ave	48.1	49.9	1.7	10.0	No	No	
11. Industrial Ave, Athens Ave to Twelve Bridges Dr	57.5	57.4	-0.1	10.0	No	No	
12. Industrial Ave, north of Twelve Bridges Dr	54.2	54.4	0.2	10.0	No	No	
13. Lincoln Blvd, south of SR 65 SB On-Ramp	54.3	54.5	0.2	10.0	No	No	
14. Lincoln Blvd, SR 65 NB On-Ramp to Sterling Pkwy	62.0	62.0	0.0	3.0	No	Yes	

**TABLE 3.12-7.
EXISTING TRAFFIC NOISE LEVELS WITH AND WITHOUT FULL BUILDOUT
(DNL, dBA, 100 FEET FROM ROADWAY CENTERLINES)**

Roadway Segment	Traffic Noise Level, dBA, L _{dn} ¹					
	Existing	Existing + Full Specific Plan	Incremental Increase	Incremental Increase Significance Threshold	Significant Increase? (Yes or No) ²	Exceed 60 L _{dn} ? (Yes or No) ³
15. Lincoln Blvd, Sterling Pkwy to Ferrari Ranch Rd	61.5	61.6	0.0	3.0	No	Yes
16. Lincoln Blvd, Ferrari Ranch Rd to 1st St	60.7	61.0	0.3	3.0	No	Yes
17. Lincoln Blvd, 1st St to McBean Park Dr	59.7	60.0	0.2	10.0	No	Yes
18. Lincoln Blvd, McBean Park Dr to 7th St	59.0	59.2	0.2	10.0	No	No
19. Lincoln Blvd, North of 7th St	57.0	57.4	0.4	10.0	No	No
20. Ferrari Ranch Rd, west of Sorrento Pkwy	53.3	53.6	0.3	10.0	No	No
21. Ferrari Ranch Rd, Sorrento Pkwy to Caledon Cir	56.3	56.6	0.4	10.0	No	No
22. Ferrari Ranch Rd, Caledon Cir to SR 65 SB Ramp	61.3	62.0	0.7	3.0	No	Yes
23. Ferrari Ranch Rd, SR 65 NB On-Ramp to Joiner Pkwy	61.8	62.9	1.1	3.0	No	Yes
24. Ferrari Ranch Highway, Joiner Pkwy to Lincoln Blvd	56.8	59.2	2.5	10.0	No	No
25. Ferrari Ranch Rd, east of Lincoln Blvd	57.8	59.3	1.5	10.0	No	No
26. Joiner Pkwy, south of Nicolaus Rd	57.6	59.0	1.3	10.0	No	No
27. Joiner Pkwy, Nicolaus Rd to 1st St	58.9	59.3	0.4	10.0	No	No
28. Joiner Pkwy, 1st St to Ferrari Ranch Rd	60.1	60.3	0.2	3.0	No	Yes
29. Joiner Pkwy, south of Ferrari Ranch Rd	56.8	59.2	2.5	10.0	No	No
30. Nicolaus Rd, west of Dowd Rd	53.0	56.3	3.3	10.0	No	No
31. Nicolaus Rd, Dowd Rd to Airport Rd	53.1	59.8	6.7	10.0	No	No
32. Nicolaus Rd, Airport Rd to Nelson Ln	53.4	61.2	7.8	5.0	Yes	Yes
33. Nicolaus Rd, Nelson Ln to Teal Hollow Dr	56.9	60.1	3.2	5.0	No	Yes
34. Nicolaus Rd, Teal Hollow Dr to Lakeside Dr	56.7	59.9	3.2	10.0	No	No
35. Nicolaus Rd, Lakeside Dr to 7th St	57.6	58.9	1.3	10.0	No	No
36. Moore Rd, north of Sorrento Pkwy	49.3	50.1	0.7	10.0	No	No
37. Moore Rd, Sorrento Pkwy to Nelson Ln	49.2	50.7	1.5	10.0	No	No
38. Moore Rd, Nelson Ln to Fiddymnt Rd	51.9	51.1	-0.8	10.0	No	No
39. Moore Rd, Fiddymnt Rd to Dowd Rd	46.5	54.9	8.4	10.0	No	No
40. Moore Rd, west of Dowd Rd	44.7	51.8	7.0	10.0	No	No
41. Dowd Rd, Moore Rd to B St	44.3	56.4	12.1	10.0	Yes	No
42. Dowd Rd, B St to Rachel Ave	44.3	57.4	13.0	10.0	Yes	No
43. Dowd Rd, Rachel Ave to Mavis Ave	44.3	58.2	13.8	10.0	Yes	No
44. Dowd Rd, Mavis Ave to Nicolaus Rd	44.3	60.6	16.2	5.0	Yes	Yes
45. Dowd Rd, North of Nicolaus Rd	44.3	54.8	10.4	10.0	Yes	No
46. Rachel Ave, West of Dowd Rd	NA	46.9	NA	NA	NA	No

**TABLE 3.12-7.
EXISTING TRAFFIC NOISE LEVELS WITH AND WITHOUT FULL BUILDOUT
(DNL, dBA, 100 FEET FROM ROADWAY CENTERLINES)**

Roadway Segment	Traffic Noise Level, dBA, L _{dn} ¹					
	Existing	Existing + Full Specific Plan	Incremental Increase	Incremental Increase Significance Threshold	Significant Increase? (Yes or No) ²	Exceed 60 L _{dn} ? (Yes or No) ³
47. Rachel Ave, Dowd Rd to A St	NA	48.4	NA	NA	NA	No
48. Rachel Ave, A St to Ruth Ave	NA	55.3	NA	NA	NA	No
49. Rachel Ave, Ruth Ave to Nelson Ln	NA	56.3	NA	NA	NA	No
50. Mavis Ave, west of Dowd Rd	NA	48.6	NA	NA	NA	No
51. Mavis Ave, Dowd Rd to A St	NA	60.3	NA	NA	NA	Yes
52. Mavis Ave, A St to Ruth Ave	NA	61.3	NA	NA	NA	Yes
53. Mavis Ave, Ruth Ave to Nelson Ln	NA	63.0	NA	NA	NA	Yes
54. Mavis Ave, east of Dowd Rd	NA	61.5	NA	NA	NA	Yes
55. B St, west of Dowd Rd	NA	47.2	NA	NA	NA	No
56. B St, Dowd Rd to A St	NA	48.9	NA	NA	NA	No
57. A St, south of B St	NA	48.9	NA	NA	NA	No
58. A St, B St to Rachel Ave	NA	50.6	NA	NA	NA	No
59. A St, Rachel Ave to Mavis Ave	NA	51.3	NA	NA	NA	No
60. Ruth Ave, south of Rachel Ave	NA	51.1	NA	NA	NA	No
61. Ruth Ave, Rachel Ave to Mavis Ave	NA	49.5	NA	NA	NA	No
62. Old Nelson Ln, Moore Rd to SR 65	49.9	64.6	14.7	5.0	Yes	Yes
63. Old Nelson Lane, SR 65 to Nicolaus Rd	57.5	62.4	4.9	5.0	No	Yes
64. New Nelson Ln, Moore Rd to Rachel Ave	NA	51.9	NA	NA	NA	No
65. New Nelson Ln, Rachel Ave to Mavis Ave	NA	53.5	NA	NA	NA	No
66. New Nelson Ln, Mavis of Nicolaus Rd	NA	57.7	NA	NA	NA	No
67. SR 65, north of Riosa Rd	66.5	67.7	1.3	3.0	No	Yes
68. SR 65, Riosa Rd to Wise Rd	65.4	67.1	1.7	3.0	No	Yes
69. SR 65, Wise Rd to Nelson Ln	65.4	67.2	1.8	3.0	No	Yes
70. SR 65, south of Nelson Ln	66.4	70.6	4.1	3.0	Yes	Yes

NOTES:

- Noise levels were determined using FHWA Traffic Noise Prediction Model (FHWA RD-77-108).
- Traffic noise is considered significant if the incremental increase in noise at residences is greater than 5 dBA in an existing noise environment of less than 60 dBA L_{dn} and future traffic is greater than 60 dBA L_{dn}, 3 BA in an existing noise environment greater than 60 dBA and future traffic is greater than 60 dBA, and 10 dB when future traffic noise levels is below 60 dBA L_{dn}.
- According to the City of Lincoln General Plan, traffic noise levels exceeding 60 dBA L_{dn} at a residential land use would result in a significant impact.

NA = New roadway

SOURCE: ESA, 2015

Traffic noise would be considered significant if:

- the incremental increase in noise at residences is greater than 5 dBA in an existing noise environment of less than 60 dBA L_{dn} and future traffic is greater than 60 dBA L_{dn} ,
- the incremental increase in noise at residences is greater than 3 dB in an existing noise environment greater than 60 dBA and future traffic is greater than 60 dBA, or
- the incremental increase in noise at residences is greater than 10 dB when future traffic noise levels is below 60 dBA L_{dn} .

The project-related traffic noise increases near existing noise-sensitive land uses along Nicolaus Road, Dowd Road, Old Nelson Lane and SR 65 could exceed the established significance threshold and result in a substantial ambient noise increase. Increased traffic volumes along Nicolaus Road, between Airport Road and Nelson Lane would increase noise levels by 7.8 dB from 53.4 to 61.2 dBA L_{dn} . The existing residential homes located along this roadway segment are back at least 230 feet from the centerline of Nicolaus Road (as expanded) and have existing buildings (i.e., barns and stables) that block line-of-site with Nicolaus Road, making it unlikely that project-generated traffic noise increases would be significant at these residences. Nevertheless, this impact is conservatively considered to be **potentially significant**.

Increases in traffic volumes along Dowd Road, between Moore Road to Nicolaus Road, would increase noise levels as high as 16.2 dB from 44.3 to 60.6 dBA L_{dn} . Most of these residential homes located along this roadway segment are set back further than 100 feet from the centerline of Dowd Road and have trees and fence line obstructing the view of the roadway. However, this would not reduce traffic noise increases to below the established significance threshold at these residential homes. These homes would be significantly impacted by increased traffic noise due to development of the Plan Area. Increases in traffic volumes along Old Nelson Lane, between Moore Road to SR 65, would increase noise levels by 14.7 dB from 49.9 to 64.6 dBA L_{dn} . Most of these residential homes are within 100 feet of the centerline of Moore Road and would be significantly impacted by increased traffic noise. Along SR 65, south of Nelson Lane, traffic noise would increase by 4.1 dB from 66.4 to 70.6 dBA L_{dn} . Consequently, existing noise-sensitive land uses located adjacent to Dowd Road and Old Nelson Lane would experience noise increases exceeding the established significance thresholds. Thus, this would be considered a **potentially significant** impact.

Roadway Traffic Noise Exposure and Land Use Compatibility of Proposed Uses

With respect to new (proposed) on-site sensitive land uses, the City of Lincoln General Plan Policy HS-8.2 requires that outdoor areas of new projects are constructed such that they would not be exposed to noise levels that exceed the City's noise standard. Therefore, an impact would be considered significant if new residences would be exposed to transportation-related exterior noise levels above 60 dBA L_{dn} and interior noise levels above 45 dBA L_{dn} . The project-generated traffic noise levels could exceed the City's noise standard at new on-site noise-sensitive land uses along Nicolaus Road, Dowd Road, Mavis Road, Old Nelson Lane and SR 65.

Increase in traffic volumes along Nicolaus Road between Airport Road and Nelson Lane as a result of project-related traffic, would increase noise levels to 61.2 dBA L_{dn} from 100 feet from the roadway centerline. These homes would be located further than 100 feet from this roadway segment and would not experience future traffic noise levels exceeding 60 dBA L_{dn} . Thus, these future homes would not be significantly impacted by future traffic noise.

However, increases in traffic volumes along Dowd Road between Mavis Avenue and Nicolaus road would increase noise levels to 61.2 dBA L_{dn} from 100 feet from the roadway centerline. The future noise-sensitive land uses to this roadway segment consist of high density residential. This land use would be located within 100 feet from Dowd Road and would be impacted by traffic noise levels exceeding 60 dBA L_{dn} .

Similarly, increases in traffic volumes along Mavis Avenue between Dowd Road and Nelson Lane would increase noise levels to 61.3 dBA L_{dn} from 100 feet from the roadway centerline. The future noise-sensitive land uses to this roadway segment would consist of medium density residential. These land uses would be located within 100 feet from Mavis Avenue and would be impacted by traffic noise levels exceeding 60 dBA L_{dn} .

Increases in traffic volumes along Old Nelson Lane between Moore Road and SR 65 would increase noise levels to 64.6 dBA L_{dn} from 100 feet from the roadway centerline. The future noise-sensitive land uses to this roadway segment would consist of low density residential. Most of these residential homes would be located within 100 feet from Old Nelson lane and would be impacted by traffic noise levels exceeding 60 dBA L_{dn} .

Increase in traffic volumes along SR 65, between Wise Road and south of Nelson Lane, would increase noise levels up to 70.6 dBA L_{dn} 100 feet from the roadway centerline. The future noise-sensitive land uses to this roadway segment would consist of low to medium density residential uses proposed within Areas B, E, and F. These proposed residences could be located approximately 200 feet from the centerline of SR 65; however, even at this distance future traffic noise levels would still remain significant. Consequently, future on-site noise-sensitive land uses located adjacent to Dowd Road (between Mavis Avenue and Nicolaus Road), Mavis Road (between Dowd Road and Nelson Lane), Old Nelson Lane (between Moore Road and SR 65) and SR 65 (between Wise Road and south of Nelson Lane) would result in future traffic noise levels exceeding the City of Lincoln established exterior noise standards and would be considered a **potentially significant impact**.

The worst-case exposure of any new on-site sensitive land uses, developed pursuant to the proposed Specific Plan, to future traffic noise would occur at the sensitive land uses near SR 65. As discussed above and shown in Table 3.12-7, low to medium density residential sensitive land uses could be located as close as 200 feet from this roadway segment would be exposed to noise levels as high as 66 dBA L_{dn} . All other new noise sensitive land uses analyzed would be exposed to traffic noise less than 66 dBA L_{dn} . To achieve an interior noise level of 45 dBA L_{dn} at the sensitive land uses adjacent to SR 65, a building façade noise reduction of 21 dB would be

required. Since the design of the onsite residential buildings are unknown at this time, it is uncertain whether standard construction would be acceptable for shielding for all sensitive land use structures near SR 65. Therefore, this would be considered a **potentially significant** impact.

Area A

Roadway Traffic Noise Impacts on Existing Uses

Development of Area A would introduce additional traffic volumes to local roadways and create new roadways within the project site and contribute to an increase in local traffic volumes, resulting in higher noise levels along local roadways. These new roadways include Rachel Avenue, Mavis Avenue, Ruth Avenue and New Nelson Lane. These increases in traffic volumes could result in increased traffic noise levels that could potentially adversely affect adjacent noise-sensitive land uses, including the LHS Farm and existing residences. Using algorithms from the FHWA's Highway Traffic Noise Prediction Model (FHWA-RD-77-108) and the estimated project traffic volumes provided by Fehr & Peers,¹⁹ traffic noise levels were analyzed for seventeen roadway segments. The segments analyzed and results of the modeling are shown in **Table 3.12-8**. As shown in Table 3.12-8, traffic noise levels were predicted at a represented distance of 100 feet for existing and future with- project and no-project conditions. The traffic noise increases associated with the full build-out of Area A would range between 0.8 to 3.6 dB relative to existing conditions. The existing noise-sensitive land uses that would be affected by these increases in traffic noise are rural residential.

As shown in Table 3.12-8, the greatest effect on ambient levels would occur at the existing residential land uses located along Old Nelson Lane, between Moore Road and Mavis Avenue, where traffic noise would increase by as much as 3.6 dB. All other roadways analyzed would be expected to experience a traffic noise increase less than 3.2 dB. According to the City of Lincoln 2050 General Plan EIR,²⁰ a traffic noise is considered significant if the incremental increase in noise at residences is greater than 5 dB in an existing noise environment of less than 60 dBA L_{dn} and future traffic is greater than 60 dBA L_{dn} , 3 dB in an existing noise environment greater than 60 dBA L_{dn} and future traffic is greater than 60 dBA L_{dn} , and 10 dB when future traffic noise levels is below 60 dBA L_{dn} . The highest increase in traffic noise at the residential sensitive land uses (located adjacent to a roadway segment affected by the proposed project) is 3.6 dB, which would not result in a substantial increase in traffic noise. In addition, the LHS Farm and all existing residential land uses located adjacent to roadways that would be affected by the proposed Area A development would not experience a substantial increase in traffic noise. Consequently, none of the roadway segments analyzed would result in a significant increase in traffic noise from the proposed project versus the existing scenario; therefore, traffic noise associated with the proposed project is **less than significant**.

¹⁹ Fehr & Peers, 2015. Village 5 Specific Plan EIR – Peak Hour Volumes and Analysis. April 29, 2015.

²⁰ City of Lincoln, 2006. City of Lincoln General Plan Update Draft Environmental Impact Report. SCH# 2005112003. October 2006.

**TABLE 3.12-8.
EXISTING TRAFFIC NOISE LEVELS WITH AND WITHOUT AREA A
(DNL, dBA, 100 FEET FROM ROADWAY CENTERLINES)**

Roadway Segment	Traffic Noise Level, dBA, Ldn ¹					
	Existing	Existing + Area A	Incremental Increase	Incremental Increase Significance Threshold	Significant? (Yes or No) ²	Exceed 60 dBA L _{dn} ? (Yes or No) ³
1. Fiddymnt Rd, Sunset Blvd to Athens Ave	57.1	58.0	0.9	10.0	No	No
2. Fiddymnt Rd, Athens Ave to Catlett Rd	52.5	55.1	2.6	10.0	No	No
3. Fiddymnt Rd, Catlett Rd to Moore Rd	52.1	54.9	2.9	10.0	No	No
4. Moore Rd, Old Nelson Ln to Fiddymnt Rd	51.9	54.5	2.6	10.0	No	No
5. Moore Rd, Fiddymnt Rd to A St	46.5	48.9	2.3	10.0	No	No
6. Moore Rd, A St to Dowd Rd	46.5	49.7	3.2	10.0	No	No
7. Rachel Ave, A St to Ruth Ave	NA	54.5	NA	10.0	NA	No
8. A St, Moore Rd to Rachel Ave	NA	48.4	NA	10.0	NA	No
9. Mavis Ave, A St to Ruth Ave	NA	56.6	NA	10.0	NA	No
10. Ruth Ave, south of Rachel Ave	NA	52.5	NA	10.0	NA	No
11. Ruth Avenue, Rachel Ave to Mavis Ave	NA	49.5	NA	10.0	NA	No
12. Old Nelson Ln, Moore Rd to Mavis Ave	49.9	53.5	3.6	10.0	No	No
13. Old Nelson Ln, SR 65 to Nicolaus Rd	57.5	59.6	2.1	10.0	No	No
14. New Nelson Rd, Rachel Ave to Mavis Ave	NA	56.1	NA	10.0	NA	No
15. Dowd Rd, north of Moore Rd	44.3	47.5	3.2	10.0	No	No
16. SR 65, south of Nelson Ln	66.4	68.5	2.1	3.0	No	Yes
17. SR 65, north of Old Nelson Rd	65.4	66.2	0.8	3.0	No	Yes

NOTES:

- Noise levels were determined using FHWA Traffic Noise Prediction Model (FHWA RD-77-108).
- Traffic noise is considered significant if the incremental increase in noise at residences is greater than 5 dB in an existing noise environment of less than 60 dBA L_{dn}, and future traffic is greater than 60 dBA L_{dn}, 3 dB in an existing noise environment greater than 60 dBA L_{dn}, and future traffic is greater than 60 dBA L_{dn}, and 10 dB when future traffic noise levels is below 60 dBA L_{dn}.
- According to the City of Lincoln General Plan, traffic noise levels exceeding 60 dBA L_{dn} at a residential land use would result in a significant impact.

NA = New roadway

SOURCE: ESA, 2015

Roadway Traffic Noise Exposure and Land Use Compatibility of Proposed Uses

With respect to new on-site sensitive land uses proposed within the Area A development, the City of Lincoln General Plan Policy HS-8.2 requires that outdoor areas of new projects are constructed such that they are not exposed to noise levels that exceed the City's noise standard. Therefore, an impact would be considered significant if new residences would be exposed to transportation-related exterior noise levels above 60 dBA L_{dn} and interior noise levels above 45 dBA L_{dn}.

The nearest high volume roadway to the project area is SR 65. Increase in traffic volumes along SR 65, south of Old Nelson Lane, would increase noise levels to as high as 68.5 dBA L_{dn} at 100 feet from the roadway centerline, as shown in Table 3.12-8. All other roadway segments analyzed would not increase noise levels beyond 59.6 dBA L_{dn} . The proposed land uses within Area A near SR 65 would consist of recreational and office/commercial uses. The proposed residential land uses within Area A would not be located near SR 65. However, there could be a daycare center located within Area A. According to the City of Lincoln General Plan Policy HS-8.2, outdoor areas for parks, commercial, schools (e.g., daycare center) uses cannot exceed 70, 65 and 60 dBA L_{dn} , respectively. The Regional Sports Park, office/commercial and daycare center exterior areas would be located well beyond 100 feet from the centerline of SR 65 and would not be exposed to traffic noise levels exceeding the City's noise standards for recreational, commercial and educational uses. Therefore, this impact would be **less than significant**.

The worst-case exposure of any new on-site sensitive land uses, pursuant to the development of Area A, to future traffic noise would occur at the residential uses along Old Nelson Lane, between SR 65 and Nicolaus Road. As shown in Table 3.12-8, residential land uses located within 100 feet from the centerline of Old Nelson Lane would be exposed to traffic noise levels as high as 59.6 dBA L_{dn} . To achieve an interior noise level of 45 dBA L_{dn} at the sensitive land uses adjacent to Old Nelson Lane, a building façade noise reduction of 14.6 dB would be required. Standard building construction (wood siding, STC-27 windows, door weather-stripping, exterior wall insulation, composition plywood roof, etc.) would result in an exterior to interior noise reduction of at least 25 dB with windows closed. Therefore, standard construction would be acceptable for shielding for all sensitive land use structures near Old Nelson Lane and would be considered a **less-than-significant impact**.

Mitigation Measure

Mitigation Measure 3.12-3 (Full Specific Plan and Area A)

Prior to approval of the tentative subdivision map (TSM) for any residential uses located adjacent to Dowd Road (between Mavis Avenue and Nicolaus Road), Mavis Road (between Dowd Road and Nelson Lane), Old Nelson Lane (between Moore Road and SR 65) and SR 65 (between Wise Road and south of Nelson Lane), the TSM applicant shall submit to the City an acoustical study demonstrating that noise attenuation features included in the project would reduce outdoor and interior noise levels to less than the City's 60 dBA L_{dn} and 45 dBA L_{dn} noise standards, respectively. The noise study shall identify the measures to be utilized and the noise attenuation attributable to each feature. Noise attenuating features may include, but are not limited to:

- a) *Construct noise barriers (walls and/or berms), as appropriate on a site-specific basis, to reduce traffic noise levels at noise-sensitive land uses, which have been found to be significantly impacted by traffic noise. A concrete cinderblock noise barrier must completely block line-of-sight between the source and receptor, and can*

reduce traffic noise levels by at least 10 dB.²¹ Any noise walls shall be landscaped with vines (to be fully covered within three years) and shall be landscaped in accordance with the General Development Plan (GDP).

- b) Design and construct residential buildings adjacent to Dowd Road (between Mavis Avenue and Nicolaus Road), Mavis Road (between Dowd Road and Nelson Lane), Old Nelson Lane (between Moore Road and SR 65) and SR 65 (between Wise Road and south of Nelson Lane) so that their external activity areas are not within line-of-sight of these roadways. This could result in noise reductions of at least 3 dB.*
- c) Repaving impacted roadways with “quiet” pavement types such as rubberized concrete. Roadways constructed with rubberized concrete can result in a net decrease in traffic noise levels of approximately 4 dB compared to that created by conventional asphalt.²²*
- d) The applicant shall conduct an acoustical analysis to confirm that if the materials to be used for residential building construction would reduce interior noise levels to 45 dBA L_{dn} . If the analysis determines that additional noise insulation features are required, the acoustical analysis shall identify the type of noise insulation features that would be required to reduce the interior noise levels to 45 dBA L_{dn} , and the applicant shall incorporate these features into the building design.*

Impact Significance after Mitigation: Implementation of Mitigation Measure 3.12-3 would reduce future traffic noise levels at the existing and planned noise-sensitive land uses located along Dowd Road, Mavis Avenue, Old Nelson and SR 65. However, it is likely that these measures in most cases would be infeasible to implement or would not be fully effective, primarily for off-site receptors, due to factors associated with existing land use development. For example, constructing a concrete cinderblock noise barrier along Dowd Road or Old Nelson Lane would have the potential to block driveway access (i.e., residential driveways), which reduce the effectiveness of noise barriers and would thus not reduce future traffic noise levels to below the established significance threshold. In addition, the traffic noise reduction from the use of “quiet” pavement would diminish over time due to normal wear and tear from traffic and weather. Therefore, this impact would result in a **significant and unavoidable impact**.

Impact 3.12-4: The proposed project could result in exposure of people residing or working at the project site to excessive noise levels from a project located within an airport land use

²¹ California Department of Transportation, 2013. Technical Noise Supplement to the Caltrans Noise Analysis Protocol. September 2013.

²² County of Sacramento, 1999. Report on the Status of Rubberized Asphalt Traffic Noise Reduction in Sacramento County. November 1999.

plan or, where such a plan has not been adopted, within two miles of a public or public use airport.

The proposed project site is located within two miles of the Lincoln Regional Airport. The Lincoln Regional Airport is a designated Reliever Airport for the greater Sacramento region and accommodates single-engine aircraft and a broad contingent of large and small business jet aircraft. As previously discussed, the Placer County ALUCP has established Compatibility Zones around the airport. These Compatibility Zones each have their own restrictions as to how many residential dwellings can be constructed in each zone, which is based on specific noise, safety, airspace protection, overflight and other compatibility policies created by the County. For example, (as shown in Table 3.12-5) in Compatibility Zone A (see Figure 3.11-4 in Section 3.11, Land Use and Planning) noise levels are expected to exceed the maximum allowed day night noise level of 60 dBA L_{dn} , therefore new homes are not allowed to be constructed within this area. Land uses that do not conform to the Placer County ALUCP would be exposed to excessive aircraft noise and would result in a significant impact. The proposed project's impacts relative to the Placer County ALUCP are discussed below for the Full Specific Plan and Area A.

Full Specific Plan

The land uses located within the proposed Specific Plan would include residential, educational, recreational, and commercial land uses. These land uses would be located within Compatibility Zones A, B1, C1, C2 and D. As shown in Figure 3.11-4 in Section 3.11, Land Use and Planning, proposed residential land uses would be located in Compatibility Zone A; proposed residential and commercial land uses would be located with Compatibility Zone B1; proposed residential, educational and recreational uses would be located within Compatibility Zone C2; and residential, commercial, educational and recreational land uses would be located within Compatibility Zone D. As stated in the Placer County ALUCP Policy 3.3.3, the compatibility evaluations in the Basic Compatibility Criteria table for the Lincoln Regional Airport take into account single-event noise concerns.

The proposed project design and layout would conform to all of the Placer County ALUCP's compatibility zone requirements. Proposed land uses located within Compatibility Zone B1 and C1 would be exposed to exterior aircraft noise levels that would be at least 55 dBA CNEL that could exceed 60 dBA CNEL.²³ According to the Placer County ALUCP's Policy 3.3.2, new structures within Compatibility Zone's B1 and C1 must incorporate sound attenuation design features sufficient to meet the interior noise level criteria of 45 dBA CNEL. To achieve this interior noise level, sensitive land uses within Compatibility Zone's B1 and C1 must demonstrate an exterior to interior noise reduction of no less than 25 dB and 20 dB, respectively.

The commercial land uses within Compatibility Zone C1 could include a daycare center. A daycare is considered a sensitive receptor that would be a unique use in a commercial center, and

²³ Placer County. 2014. Placer County Airport Land Use Compatibility Plans.– Containing Individual Plan for: Auburn Municipal Airport, Blue Canyon Airport, Lincoln Regional Airport. Adopted February 26, 2014. Chapter 6.

would be subject to more stringent maximum noise level standards than other potential uses in a commercial center such as restaurant or shopping uses. If a daycare is constructed within Compatibility Zone C1, the building containing the daycare center must demonstrate an exterior to interior noise reduction of at least 20 dB. Since the designs of the proposed commercial buildings are unknown, aircraft overflights in Compatibility Zone C1 could result in interior noise levels at a proposed daycare facility that could exceed 45 dBA CNEL. This would result in a **potentially significant** impact.

According to the Placer County ALUCP, exterior aircraft noise levels within Compatibility Zones C2 and D would not exceed 60 dBA CNEL and would not disrupt outdoor activities. In addition, the proposed project would not construct any new structures within Compatibility Zone A. Since the land uses within the project would comply with the basic Compatibility Criteria for the Lincoln general airport, the project would not have any SEL impacts at any of the onsite sensitive land uses. This would result in a **less-than-significant** impact.

Area A

The land uses proposed in Area A would be located within the Placer County ALUCP Compatibility Zones C1, C2 and D. The land uses proposed within Area A include low and medium density residential, educational, recreational, and commercial land uses. As shown in Figure 3.11-4 in Section 3.11, Land Use and Planning, Area A proposed commercial land uses would be located within Compatibility Zone C1; Area A proposed residential, educational, and recreational uses would be located within Compatibility Zone C2; and Area A proposed residential, educational, and recreational uses would be located in Compatibility Zone D.

The proposed design and layout of the land uses in Area A would conform to all of the Placer County ALUCP's compatibility zone requirements. According to the Placer County ALUCP, exterior aircraft noise levels within Compatibility Zone C1 would be exposed to aircraft noise levels of at least 55 dBA CNEL²⁴ that could exceed 60 dBA CNEL. To minimize disruption of indoor activities by aircraft noise the Placer County ALUCP requires that all future structures within Compatibility Zone C1 incorporate sound attenuation design features sufficient to meet an interior noise level of 45 dBA CNEL. This would require commercial uses to demonstrate an exterior to interior noise reduction of no less than 20 dB. Since the designs of the proposed commercial buildings are unknown, aircraft overflights in Compatibility Zone C1 could result in interior noise levels at a proposed daycare facility that could exceed 45 dBA CNEL. This would result in a **potentially significant** impact.

Exterior aircraft noise levels within Compatibility Zones C2 and D would be exposed to aircraft noise levels less than 55 dBA CNEL and would not exceed 60 dBA CNEL.²⁵ As stated in the Placer. Therefore, this would result in a **less-than-significant** impact.

²⁴ Ibid.

²⁵ Ibid.

Mitigation Measure

Mitigation Measure 3.12-4 (Full Specific Plan and Area A)

If a daycare center is located in Compatibility Zone C1, the applicant shall conduct an acoustical analysis to confirm that the materials to be used for construction of the commercial building housing the daycare center would result in an interior to exterior noise reduce of at least 20 dB. If the analysis determines that additional noise insulation features are required, the acoustical analysis shall identify the type of noise insulation features that would be require to result in an exterior to interior noise reduce of at least 20 dB, and the applicant shall incorporate these features into the building design.

Impact Significance after Mitigation: Implementation of Mitigation Measure 3.12-4 would ensure that a proposed daycare center in Compatibility Zone C- would incorporate the necessary design features to achieve an exterior to interior noise reduce of at least 20 dB by requiring acoustical analysis. With implementation of the Mitigation Measure 3.12-4, this impact would be reduced to a **less-than-significant** level.

Impact 3.12-5: Implementation of the proposed project would expose people residing or working in the proposed project area to excessive noise levels for a project within the vicinity of a private airstrip.

Full Specific Plan and Area A

There currently is an approximately one-mile long and 60-foot wide easement for a private airstrip within the Plan Area that is used a few times a year for crop dusting activities on the boundary line of Areas A and I. (See Figure 3.11-1 in Section 3.11, Land Use and Planning.) Despite the limited use of this airstrip easement, if left in place, its usage could expose new residents to excessive noise levels during takeoff and landing activities. Therefore, this impact would be **potentially significant**.

Mitigation Measure

Mitigation Measure 3.12-5 (Full Specific Plan and Area A)

The project applicant shall implement Mitigation Measure 3.9-6.

Impact Significance After Mitigation: Implementation of Mitigation Measure 3.12-5 would ensure that no new Plan Area residents would not be exposed to excessive noise levels associated with a private airstrip because it would ensure the removal and abandonment of the airstrip prior to the construction of new homes within hazard distance (500 feet) of the airstrip. As a result, this impact would be considered **less than significant**.

Impact 3.12-6: Implementation of the proposed project would expose on-site noise-sensitive land uses to noise generated by commercial, educational and recreational activities in excess of the City of Lincoln General Plan noise standard or result in an increase in ambient noise.

Full Specific Plan and Area A

Non-transportation operational activities at the project site after full buildout of the V5SP including operation of HVAC units, the use of loading docks, school uses, and park uses could produce excessive noise levels.

Heating, Ventilation and Air Conditioning

Noise associated with commercial land uses is variable, depending on the size, layout and operational activities. The commercial and office uses that would be developed as part of the full V5SP would be near the intersection of Nelson/SR 65 in Area A and Nicolaus/SR 65 in Area E. These commercial uses would have rooftop HVAC units. Such HVAC units typically generate noise levels of approximately 55 dBA L_{eq} at a reference distance of 100 feet from the operating units during maximum heating or air conditioning operations.²⁶ Assuming that the HVAC unit is operating continuously for a 24-hour period, a noise-sensitive receptor located 100 feet from the HVAC unit would be exposed to a day-night noise level of 61.4 dBA L_{dn} . At this distance, noise-sensitive land uses would be exposed to noise levels that would exceed the acceptable 60 dBA L_{dn} City of Lincoln land use compatibility noise standard for residential land uses (see Table 3.12-4). It is possible that future onsite residential dwellings would be located within 100 feet from a HVAC unit. Therefore, this impact would be **potentially significant**.

Loading and Service Delivery

The commercial uses proposed in the V5SP would include retail and shopping centers that would require loading docks. These commercial land uses would likely be near the intersections of Nelson/SR 65 in Area A and Nicolaus/SR 65 in Area E, as shown in Figure 2-4 in Chapter 2, Project Description. Truck deliveries may also be a source of elevated noise levels at nearby on-site noise-sensitive land uses. Typically, noise levels of 63.2 dB L_{eq} at a distance of 100 feet could be generated during loading dock activities.²⁷ Assuming that a loading dock is receiving truck deliveries continuously for a 24-hour period, a noise-sensitive receptor located 100 feet from a loading dock would be exposed to a day-night noise level of 69.6 dBA L_{dn} . At this distance, noise-sensitive land uses would be exposed to noise levels that would exceed the acceptable 60 dBA L_{dn} City of Lincoln land use compatibility noise standard for residential land uses (see Table 3.12-4). It is possible that future onsite residential dwellings would be located within 100 feet from a loading dock. Therefore, this impact would be **potentially significant**.

²⁶ Bolt, Baranek, and Newman, 1971. Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances. December 31, 1971.

²⁷ Environmental Science Associates, 2008. Fresh & Easy Distribution Truck Noise Study. December 3, 2008.

Schools

The project includes the development of school-related uses, which would include three elementary schools in Areas A, H and I, one middle school in Area I, and one high school in Area F. Noise generating activities occurring within educational land uses would be controlled by the school district, and would depend on facility type. Daytime noise typically associated with schools includes intermittent noise such as loudspeakers used to signal the beginning and end of the school day and recess periods and potentially for occasional announcements, adults' and children's voices, opening and closing of vehicle doors in parking lots and use of landscape maintenance equipment. Maintenance activities associated with project-related parking and landscaped areas could include the use of mowers and leaf blowers. Recreational facilities at middle schools and high schools can generate additional noise extending into the evening and nighttime hours during competitive sporting events (e.g., soccer games, football games, and track and field events). During the day time hours, when ambient noise levels are at their highest, noise generated by these land uses would not be loud enough to disrupt future residences. However, if there are nighttime games at the school uses, the noise generated by crowds and loud speakers could be loud enough to disrupt sleep and exceed the general plan exterior noise standards. Therefore, this impact would be **potentially significant**.

Lincoln High School Farm

Lincoln High School currently has a 280-acre property that is used exclusively for educational farming projects, with classrooms and workshops on the easternmost area. Expansion of the LHS Farm on site may increase the educational uses on this site as well as maintaining the emphasis on farming and habitat uses. Noise generated by agricultural activities at the LHS Farm would be primarily associated with the intermittent and seasonal use of small tractors and related farm equipment, as well as periodic noise from farm animals. Noise levels associated with the operation of farm tractors can reach levels of approximately 80 dBA L_{eq} from a distance of 50 feet. Agricultural activities at the LHS Farm are expected to only occur during the daytime hours. During the day time hours, when ambient noise levels are at their highest, noise generated by the LHS Farm would not be loud enough to disrupt future sensitive receptors, even those proposed directly to the east of the LHS Farm. Therefore, this impact would result in a **less-than-significant** impact.

Parks and Recreation Facilities

The project includes the development of park uses in Areas A, E, F, H and I, which would include three community or village parks, a Regional Sports Park and multiple neighborhood parks throughout the project area. Noise generating activities occurring at such facilities would be controlled by the recreation and park districts. Daytime noise typically associated with parks includes intermittent noise such as loudspeakers, adults' and children's voices, opening and closing of vehicle doors in parking lots and use of landscape maintenance equipment. Maintenance activities associated with landscaping could include the use of mowers and leaf blowers. The planned facilities within the regional sports park, proposed on the norther side of Mavis Avenue and adjacent to Markham Avenue and SR 65, would include 12 soccer fields, training fields, a

fieldhouse with locker rooms, a civic plaza, restrooms, a picnic area, a playground, and on-site parking areas. A second community park, the Auburn Ravine Community Park, would be located on Ruth Avenue, abutting Auburn Ravine. This park would provide facilities, such as softball/baseball fields, a tennis complex, parking, restrooms, concession facilities, and a playground, along with a trailhead and nature/wildlife interpretative facilities. Noise sources commonly associated with these types of facilities include elevated voices from crowds, amplified sounds from loud speakers, exterior public address systems, and musical instruments. During the day time hours, when ambient noise levels are at their highest, noise generated by these land uses would not be loud enough to disrupt future residences. However, if there are nighttime games at the regional park or Auburn Ravine Community Park, the noise generated by crowds and loud speakers could be loud enough to disrupt sleep and exceed the general plan exterior noise standards. Therefore, this impact would be **potentially significant**.

Mitigation Measure

Mitigation Measure 3.12-6 (Full Specific Plan and Area A)

During individual phase design preparation, the applicant shall implement the following measures to assure that interior and exterior noise levels from stationary sources are below the City's standards of 60 dBA L_{dn} outdoor and 45 dBA L_{dn} indoor, respectively:

- a) The proposed land uses shall be designed so that on-site mechanical equipment (e.g., HVAC units, compressors, generators) and area-source operations (e.g., loading docks, parking lots, and recreational-use areas) are located no closer than 120 feet from the nearest residential dwelling or provided shielding from nearby noise sensitive land uses to meet City noise standards. Shielding must have a minimum height sufficient to completely block line-of-sight between the on-site noise source and the nearest residential dwelling to meet the City noise standards. Based on the size and placement of the HVAC units (i.e., ground level or roof top), barrier heights may range between three to six feet. Depending on the layout of the proposed loading docks, barriers that completely block line-of-sight between the loading docks and the nearest residential dwelling may not be feasible.*
- b) Limit heavy truck deliveries to the daytime hours of 7:00 a.m. to 10:00 p.m. unless a site-specific acoustical study prepared to the satisfaction of the Planning Director or Chief Building Official concludes that deliveries outside of this timeframe would not adversely affect sensitive receptors.*
- c) The use of loudspeakers and similar devices used within parks shall be prohibited outside the hours of 7:00 a.m. to 10:00 p.m., Sunday through Thursday, and 7:00 a.m. to 11:00 p.m. on Friday and Saturday.*

- d) *Commercial loading docks located within 100 feet of existing or proposed residences shall be positioned in areas shielded from view of adjacent noise-sensitive uses by intervening commercial buildings to the degree feasible. If required to reduce noise to acceptable levels, solid noise barriers shall be constructed at the boundary of commercial uses with loading docks and have a minimum height sufficient to intercept line-of-sight between heavy trucks and the affected area of the noise-sensitive uses.*
- e) *Signs shall be posted prohibiting idling of delivery trucks to 5 minutes or less.*

Impact Significance after Mitigation: Implementation of Mitigation Measures 3.12-6(a) through (e) would reduce the potential for adverse noise impacts on nearby noise-sensitive residences associated with activities and/or operations of commercial uses, schools and parks. Loading dock and HVAC noise associated with commercial uses would be reduced through the use of noise barriers/shielding and limiting deliveries to hours when ambient noise levels are at their highest. Noise generated by parks would be reduced at nearby noise-sensitive land uses by prohibiting of loudspeakers and similar devices between 7:00 a.m. and 10:00 p.m., Sunday through Thursday, and between 7:00 a.m. and 11:00 p.m. on Friday and Saturday. However, it is possible that events at schools could go late and could exceed the City's noise standards. Because of limitations on regulating the hours schools can operate, there is no guarantee this rare but potentially significant impact can be mitigated. As a result, this impact would be considered **significant and unavoidable**.

Cumulative Impacts

The geographic context for changes in the noise and vibration environment due to development of the proposed project would be localized in mainly a rural area of the City of Lincoln, as well as along roadways that would serve the proposed project. In order to contribute to a cumulative construction noise impact, another project in close proximity would have to be constructed at the same time as the proposed project. There are numerous development projects in several locations near the proposed project, currently in the planning stages, which could be constructed and operational in the foreseeable future. The largest projects near the project site are the Village 7 Specific Plan development, Village 1 Specific Plan development, the L-shaped development within SUD-B northeast of the SR 65/Nelson Lane interchange, and an infill project within the western edge (east side of SR 65) of the City of Lincoln.

Regional traffic noise levels along roadways within the City of Lincoln are expected to increase due to the additional traffic generated by the proposed project and other developments such as Villages 1 and 7. The traffic volumes used to assess future traffic growth (see Section 3.15, Transportation and Circulation) came from the Placer County cumulative travel demand forecast (TDF) 2008 model, which has a horizon year of 2025. This "2025" Placer County TDF model includes land development and transportation infrastructure projects that are anticipated to be constructed by 2025. The land development inputs are projected based on the adopted general

plans for the County of Placer and Cities of Auburn, Lincoln, Loomis, Rocklin, and Roseville, and population and employment projections at the time of the model's development. Similarly, the transportation infrastructure projects are those anticipated to be funded and constructed by the horizon year of the model based on adopted regional transportation plans and local capital improvement programs.

To account for the reduced amount of growth due to the 2008 recession while also including all reasonably foreseeable land development projects in the study area, the traffic study makes the following adjustments to the 2025 Placer County TDF model land use inputs.

- Updated the land use inputs to ensure that the full build out of the Lincoln Village 1 and Lincoln Village 7 Specific Plans, which have been adopted by the City of Lincoln.
- Removed all projected development in Lincoln Villages 2, 3, 4, and 6, as well as SUD-C, which have limited or no growth in the SACOG MTP/SCS, and do not have approved specific plans.
- Updated the land use inputs to include full build out of both Amoruso Ranch Specific Plan and Placer Ranch Specific Plan. The City of Roseville has issued a notice of preparation of a Draft EIR for both of these specific plans, which at the time of the V5SP NOP issuance, indicates that they are reasonably foreseeable to occur.^{28,29}
- Used the land use inputs in the 2025 Placer County TDF model to reflect additional development within the City of Lincoln City Limits.

Table 3.12-9 shows the projected traffic noise levels at a reference distance of 100 feet from the various roadway centerlines for cumulative plus project conditions, and the increase associated with those levels over cumulative conditions without the full buildout of the specific plan and Area A, respectively.

The proposed project's main contribution to a cumulative noise impact is future traffic volumes. Non-transportation (i.e., stationary noise sources) and construction noise impacts are typically project-specific and highly localized. Project-related construction activities within the project area would contribute to cumulative noise levels, but in a highly localized manner. As for future onsite stationary sources, as the area continues to develop noise from different types of uses would continue to combine and result in an increase in the overall acoustical environment. Therefore, future stationary noise sources would not contribute to cumulative noise impacts at distant locations and are not evaluated on a cumulative level.

²⁸ City of Roseville, 2016. Amoruso Ranch Specific Plan. Adopted June 15, 2016. Available: www.roseville.ca.us/gov/development_services/planning/specific_plans_n_planning_areas/amoruso_ranch_specific_plan.asp. Accessed February 7, 2015.

²⁹ City of Roseville. Placer Ranch Specific Plan. Available: www.roseville.ca.us/gov/development_services/planning/specific_plans_n_planning_areas/placer_ranch_specific_plan.asp. Accessed February 5, 2015.

**TABLE 3.12-9.
CUMULATIVE TRAFFIC NOISE LEVELS WITH AND WITHOUT FULL BUILDOUT
(DNL, dBA, 100 FEET FROM ROADWAY CENTERLINES)**

Roadway Segment	Traffic Noise Level, dBA, L _{dn} ¹					
	2030 Cumulative No Project	2030 Cumulative + Project	Incremental Increase	Incremental Increase Significance Threshold	Significant increase(Yes or No) ²	Exceed 60 L _{dn} ? (Yes or No) ³
1. Fiddymment Rd, Baseline Rd to Pleasant Grove Blvd	66.7	66.8	0.1	3.0	No	Yes
2. Fiddymment Rd, Pleasant Grove to Blue Oaks Blvd	64.6	64.7	0.1	3.0	No	Yes
3. Fiddymment Rd, Blue Oaks Blvd to Sunset Blvd	64.0	64.2	0.2	3.0	No	Yes
4. Fiddymment Rd, Sunset Blvd to Athens Ave	62.5	63.6	1.1	3.0	No	Yes
5. Fiddymment Rd, Athens Ave to Catlett Rd	61.6	63.3	1.7	3.0	No	Yes
6. Fiddymment Rd, Catlett Rd to Moore Rd	59.7	61.8	2.1	5.0	No	Yes
7. Baseline Rd, east of Fiddymment Rd	64.6	64.7	0.1	3.0	No	Yes
8. Baseline Rd, west of Fiddymment Rd	64.1	64.1	0.0	3.0	No	Yes
9. Athens Ave, Fiddymment Rd to Industrial Ave	61.8	61.9	0.0	3.0	No	Yes
10. Industrial Ave, south of Athens Ave	49.9	50.2	0.3	10.0	No	No
11. Industrial Ave, Athens Ave to Twelve Bridges Dr	63.1	63.2	0.1	3.0	No	Yes
12. Industrial Ave, north of Twelve Bridges Dr	61.6	61.8	0.2	3.0	No	Yes
13. Lincoln Blvd, south of SR 65 SB On-Ramp	60.2	60.2	0.0	3.0	No	Yes
14. Lincoln Blvd, SR 65 NB On-Ramp to Sterling Pkwy	64.1	64.1	0.0	3.0	No	Yes
15. Lincoln Blvd, Sterling Pkwy to Ferrari Ranch Rd	63.6	63.6	0.0	3.0	No	Yes
16. Lincoln Blvd, Ferrari Ranch Rd to 1st St	62.6	62.7	0.1	3.0	No	Yes
17. Lincoln Blvd, 1st St to McBean Park Dr	61.6	61.7	0.0	3.0	No	Yes
18. Lincoln Blvd, McBean Park Dr to 7th St	61.6	61.7	0.1	3.0	No	Yes
19. Lincoln Blvd, north of 7th St	58.3	58.3	0.0	10.0	No	No
20. Ferrari Ranch Rd, west of Sorrento Pkwy	62.3	62.9	0.6	3.0	No	Yes
21. Ferrari Ranch Rd, Sorrento Pkwy to Caledon Cir	63.6	64.0	0.5	3.0	No	Yes
22. Ferrari Ranch Rd, Caledon Cir to SR 65 SB Ramp	64.8	65.2	0.3	3.0	No	Yes
23. Ferrari Ranch Rd, SR 65 NB On-Ramp to Joiner Pkwy	64.6	65.4	0.8	3.0	No	Yes
24. Ferrari Ranch Rd, Joiner Pkwy to Lincoln Blvd	59.9	61.0	1.0	5.0	No	Yes
25. Ferrari Ranch Rd, east of Lincoln Blvd	61.3	61.8	0.5	3.0	No	Yes
26. Joiner Pkwy, south of Nicolaus Rd	60.2	61.1	0.8	3.0	No	Yes
27. Joiner Pkwy, Nicolaus Rd to 1st St	61.2	61.4	0.3	3.0	No	Yes
28. Joiner Pkwy, 1st St to Ferrari Ranch Rd	62.2	63.3	1.1	3.0	No	Yes
29. Joiner Pkwy, south of Ferrari Ranch Rd	59.9	61.0	1.0	5.0	No	Yes
30. Nicolaus Rd, west of Dowd Rd	59.4	59.7	0.4	10.0	No	No
31. Nicolaus Rd, Dowd Rd to Airport Rd	60.7	61.9	1.1	3.0	No	Yes
32. Nicolaus Rd, Airport Rd to Nelson Ln	61.5	63.5	2.0	3.0	No	Yes

**TABLE 3.12-9.
CUMULATIVE TRAFFIC NOISE LEVELS WITH AND WITHOUT FULL BUILDOUT
(DNL, dBA, 100 FEET FROM ROADWAY CENTERLINES)**

Roadway Segment	Traffic Noise Level, dBA, L _{dn} ¹					
	2030 Cumulative No Project	2030 Cumulative + Project	Incremental Increase	Incremental Increase Significance Threshold	Significant increase(Yes or No) ²	Exceed 60 L _{dn} ? (Yes or No) ³
33. Nicolaus Rd, Nelson Ln to Teal Hollow Dr	60.1	62.0	1.9	3.0	No	Yes
34. Nicolaus Rd, Teal Hollow Dr to Lakeside Dr	60.3	62.1	1.8	3.0	No	Yes
35. Nicolaus Rd, Lakeside Dr to 7th St	60.4	61.3	0.8	3.0	No	Yes
36. Moore Rd, north of Sorrento Pkwy	50.1	50.2	0.2	10.0	No	No
37. Moore Rd, Sorrento Pkwy to Nelson Ln	58.9	59.9	1.0	10.0	No	No
38. Moore Rd, Nelson Ln to Fiddymnt Rd	60.2	59.8	-0.4	10.0	No	No
39. Moore Rd, Fiddymnt Rd to Dowd Rd	53.0	58.0	5.0	10.0	No	No
40. Moore Rd, west of Dowd Rd	53.5	56.0	2.5	10.0	No	No
41. Dowd Rd, Moore Rd to B St	55.1	59.7	4.6	10.0	No	No
42. Dowd Rd, B St to Rachel Ave	55.1	60.2	5.1	5.0	Yes	Yes
43. Dowd Rd, Rachel Ave to Mavis Ave	55.1	59.7	4.6	10.0	No	No
44. Dowd Rd, Mavis Ave to Nicolaus Rd	55.1	62.5	7.4	5.0	Yes	Yes
45. Dowd Rd, north of Nicolaus Rd	55.1	61.2	6.1	5.0	Yes	Yes
46. Rachel Ave, west of Dowd Rd	NA	47.5	NA	10.0	NA	No
47. Rachel Ave, Dowd Rd to A St	NA	57.2	NA	10.0	NA	No
48. Rachel Ave, A St to Ruth Ave	NA	59.4	NA	10.0	NA	No
49. Rachel Ave, Ruth Ave to Nelson Ln	NA	59.2	NA	10.0	NA	No
50. Mavis Ave, west of Dowd Rd	NA	48.1	NA	10.0	NA	No
51. Mavis Ave, Dowd Rd to A St	NA	60.1	NA	3.0	NA	Yes
52. Mavis Ave, A St to Ruth Ave	NA	60.3	NA	3.0	NA	Yes
53. Mavis Ave, Ruth Ave to Nelson Ln	NA	62.7	NA	3.0	NA	Yes
54. Mavis Ave, east of Dowd Rd	NA	61.6	NA	3.0	NA	Yes
55. B St, west of Dowd Rd	NA	47.8	NA	10.0	NA	No
56. B St, Dowd Rd to A St	NA	50.6	NA	10.0	NA	No
57. A St, south of B St	NA	53.5	NA	10.0	NA	No
58. A St, B St to Rachel Ave	NA	51.8	NA	10.0	NA	No
59. A St, Rachel Ave to Mavis Ave	NA	49.3	NA	10.0	NA	No
60. Ruth Ave, south of Rachel Ave	NA	50.6	NA	10.0	NA	No
61. Ruth Ave, Rachel Ave to Mavis Ave	NA	52.6	NA	10.0	NA	No
62. Old Nelson Ln, Moore Rd to SR 65	56.4	64.8	8.4	5.0	Yes	Yes
63. Old Nelson Ln, SR 65 to Nicolaus Rd	62.2	64.6	2.4	3.0	No	Yes
64. New Nelson Ln, Moore Rd to Rachel Ave	NA	53.9	NA	10.0	NA	No

**TABLE 3.12-9.
CUMULATIVE TRAFFIC NOISE LEVELS WITH AND WITHOUT FULL BUILDOUT
(DNL, dBA, 100 FEET FROM ROADWAY CENTERLINES)**

Roadway Segment	Traffic Noise Level, dBA, L _{dn} ¹					
	2030 Cumulative No Project	2030 Cumulative + Project	Incremental Increase	Incremental Increase Significance Threshold	Significant increase(Yes or No) ²	Exceed 60 L _{dn} ? (Yes or No) ³
65. New Nelson Ln, Rachel Ave to Mavis Ave	NA	55.4	NA	10.0	NA	No
66. New Nelson Ln, Mavis of Nicolaus Rd	NA	57.9	NA	10.0	NA	No
67. SR 65, north of Riosa Rd	67.8	68.3	0.6	3.0	No	Yes
68. SR 65, Riosa Rd to Wise Rd	67.0	67.9	0.9	3.0	No	Yes
69. SR 65, Wise Rd to Nelson Ln	67.4	69.4	2.0	3.0	No	Yes
70. SR 65, south of Nelson Ln	69.4	71.7	2.3	3.0	No	Yes

NOTES:

- Noise levels were determined using FHWA Traffic Noise Prediction Model (FHWA RD-77-108).
- Traffic noise is considered significant if the incremental increase in noise at residences is greater than 5 dB in an existing noise environment of less than 60 dBA L_{dn} and future traffic is greater than 60 dBA L_{dn}, 3 dB in an existing noise environment greater than 60 dBA L_{dn} and future traffic is greater than 60 dBA L_{dn}, and 10 dB when future traffic noise levels is below 60 dBA L_{dn}.
- According to the City of Lincoln General Plan, traffic noise levels exceeding 60 dBA L_{dn} at a residential land use would result in a significant impact.

NA = New roadway

SOURCE: ESA, 2015

In order to contribute to a cumulative exposure of people residing or working in the proposed project area to excessive noise levels for a project within the vicinity of a private airstrip, there would need to be multiple private airstrips in the vicinity of the Plan Area. Since there are no other private airstrips in the Plan Area or adjacent to the Plan Area, there would not be a cumulative impact. Therefore, cumulative noise associated with private airstrips are not evaluated on a cumulative level.

Impact 3.12-7: Construction of the proposed project, including other cumulative growth, would temporarily add to cumulative noise levels in the vicinity of the proposed project site.

There are cumulative projects currently in the planning process that could add to project-related construction noise levels. These projects include the Village 7 development, which shares a border with the proposed project's north-eastern border, Village 1 located east of SR 65 and other infill projects that are projected to occur along the western edge of the City of Lincoln. As previously discussed in Impact 3.12-1, construction activities could adversely affect both on- and off-site noise-sensitive land uses if they occur outside of the City's allowed construction hours. If project-related activities were to coincide with another development, such as Village 7, the combination effect could result in the exposure of on- and off-site noise-sensitive land uses to higher noise levels than what was previously predicted under the proposed project. As a result,

construction noise associated with those projects in combination with the proposed project would be considered a temporary **potentially significant cumulative impact** and the project's contribution would be cumulatively considerable.

Mitigation Measure

Mitigation Measure 3.12-7 (Full Specific Plan and Area A)

Implement Mitigation Measure 3.12-1.

Impact Significance after Mitigation: Implementation of Mitigation Measure 3.12-7 would reduce project-related construction noise impacts to less than significant. It is possible that noise barriers and shielding could have aesthetic impacts, but these impacts would be similar to other aesthetic impacts during construction and would be short-term and less than significant. Since there is generally an increase in ambient noise during the daytime hours (e.g., traffic, off-road agricultural equipment or aircraft noise), limiting the hours of construction to the allowed construction hours in the City's Public Facilities Improvement Standards between 7:00 a.m. to 7:00 p.m., Monday through Friday and would reduce the potential for a nuisance because project construction-related noise increases would be less noticeable over the existing daytime ambient. Therefore, this impact would result in a **less than significant cumulative impact**.

Impact 3.12-8: Construction of the proposed project, combined with other cumulative growth, would temporarily add to cumulative groundborne vibration levels in the vicinity of the proposed project site.

Construction of the proposed New Nelson Road Bridge over Auburn Ravine, Nelson Road Bridge over Markham Ravine, Moore Road Bridge over Auburn Ravine and Dowd across Markham Ravine, as well as other development in the vicinity, may include impact pile driving. If impact pile driving is used, sensitive receptors located within 90 feet of the pile driving would be exposed to vibration levels that would be strongly perceptible and could result in an annoyance. If more than one grouping of construction activities were to coincide with another development, such as the construction of the Dowd Road Bridge crossing Auburn Ravine as proposed under Village 6, the combined effect could result in the exposure of sensitive land uses to significant vibration levels. As a result, cumulative construction vibration would be considered a temporary significant cumulative impact and the project's contribution would be cumulatively considerable. Therefore, the cumulative impact would be **potentially significant**.

Mitigation Measure

Mitigation Measure 3.12-8 (Full Specific Plan and Area A)

Implement Mitigation Measure 3.12-2.

Impact Significance after Mitigation: Implementation of Mitigation Measures 3.12-8 would reduce project-related construction vibration impacts to less than significant. The use of either the drilling and casing or the pushing methods of installing piles would reduce the vibration levels as much as 25 VdB, which would substantially reduce the vibration annoyance threshold. Notifying nearby sensitive receptors of the start time and duration of onsite impact pile driving would reduce the potential for annoyance. Limiting onsite construction activities, including impact pile driving, to the daytime hours would reduce the perception of the vibration since local residences would be more active during these times. Therefore, this impact would be **less than significant cumulative** impact.

Impact 3.12-9: Increases in traffic from the proposed project, in combination with other development, could result in cumulatively considerable noise increases.

The development of the proposed project, coupled with other cumulative growth, would add traffic volumes to local roadways and introduce new roadways in the vicinity of the Plan Area, which would result in increased traffic noise levels along these roadways. Table 3.12-9 shows the projected noise levels that could occur with and without the proposed project in the year 2030. Along the majority of the roadway segments analyzed, traffic noise levels would exceed the City of Lincoln's established residential threshold of 60 dBA L_{dn} even if the proposed project is not constructed. For those locations where residential land uses are present, this would be considered a **potentially significant cumulative impact**.

The proposed project would be a major contributor to these cumulative traffic noise levels. As shown in Table 3.12-9, the roadway segments that could increase cumulative traffic noise levels with the implementation of the proposed project above the City of Lincoln's established noise standard of 60 dBA L_{dn} would include: Fiddymont Road, Industrial Avenue, Lincoln Boulevard, Ferrari Ranch Road, Joiner Parkway, Nicolaus Road, Dowd Road, Mavis Avenue, Old Nelson Lane and SR 65. In addition, the proposed project would result in a cumulatively considerable increase in traffic noise along Dowd Road and Old Nelson Lane. Therefore, this impact would be considered a **potentially significant cumulative impact**.

Mitigation Measure

Mitigation Measure 3.12-9 (Full Specific Plan and Area A)

Implement Mitigation Measure 3.12-3.

Impact Significance after Mitigation: Implementation of Mitigation Measure 3.12-9 would reduce traffic noise along impacted roadways to the extent feasible. However, it is likely that these measures in most cases would not be feasible to implement or would not be fully effective, primarily for off-site receptors, due to factors associated with existing land use development. For example, constructing a concrete cinderblock noise barrier along Dowd Road or Old Nelson Lane

would have the potential to block driveway access (i.e., residential driveways), which reduce the effectiveness of noise barriers and would thus not reduce future traffic noise levels to below to below the established significance threshold. In addition, the traffic noise reduction from the use of “quiet” pavement would diminish overtime due to normal wear and tear from traffic and weather. The ability to mitigate potential cumulative impacts (e.g., quiet pavement, soundwalls) to a less than significant level depends on a variety of factors, including the severity of the noise impact, existing land use conditions at the time, and technical feasibility. Therefore, the cumulative impact would remain **significant and unavoidable**.

3.13 Population, Employment, and Housing

This section provides a summary and analysis of the characteristics and trends of the population, employment, and housing within the City of Lincoln and the region, and describes the potential changes to population, employment, and housing, including shifts in the jobs/housing ratio and the displacement of existing housing and residents, due to the implementation of the proposed project.

Comments on the Notice of Preparation (NOP) related to population, employment, and housing received during the public comment period mentioned the importance of understanding and describing historical, current, and future population trends in the area, as well as requesting information on dwelling units, phasing until buildout, and the development fees for implementation. The sections on population and housing within this chapter address these specific issues, while development fees are discussed in Section 3.14, Public Services and Recreation.

The analysis made in this section was developed based on project-specific construction and operational features, and data provided in the City of Lincoln 2050 General Plan, City of Lincoln 2050 General Plan EIR (hereafter referred to as the General Plan EIR), the Urban Decay Analysis prepared for Lincoln Village 5 (see Appendix I), population projections from the California Department of Finance (CDF), employment projections from the California Employment Development Department (EDD), and population and employment projections from the Sacramento Area Council of Governments (SACOG).

3.13.1 Environmental Setting

Population

Regional Setting

The counties of Placer, El Dorado, Sacramento, and Yolo counties comprise the Sacramento—Roseville—Arden-Arcade Metropolitan Statistical Area (MSA). Over the previous decade, this region was one of the most rapidly growing in the State. The MSA increased 19 percent in 10 years, growing from 1.8 million people in 2000 to 2.1 million in 2010.¹ As estimated by the U.S. Census, the MSA population has grown to 2.2 million in 2013,² demonstrating a growth rate of almost five percent over the three-year period.

¹ U.S. Census, 2010. “Community Facts – for Placer, El Dorado, Sacramento, and Yolo County,” American Fact Finder. http://factfinder2.census.gov/faces/nav/jsf/pages/community_facts.xhtml. Accessed August 4, 2014.

² U.S. Census, 2013. “Estimates of the Components of Resident Population Change: April 1, 2010 to July 1, 2013 – United States – Metropolitan Statistical Area,” American Fact Finder: Guided Search. http://factfinder2.census.gov/faces/nav/jsf/pages/guided_search.xhtml. Accessed August 4, 2014.

The growth rate of Placer County outpaced the MSA from 2000 to 2010, growing 40 percent, but its pace has slowed somewhat, increasing only 3.6 percent from 2010 to 2013, as **Table 3.13-1** indicates. The population for Placer County is projected to grow 57 percent from 2010 to 2050, based on current population projections.

**TABLE 3.13-1.
PLACER COUNTY AND LINCOLN POPULATION DATA**

	2000	2010	2013	2014	2035	2050
Placer County	248,399 ¹	348,432 ⁵	360,802 ⁹	366,115 ⁹	469,016 ¹⁰	547,072 ¹⁰
Lincoln	11,205 ²	42,819 ⁶	44,231 ⁹	45,206 ⁹	112,209 ¹¹	132,000 ¹²
Rocklin	36,330 ³	56,974 ⁷	59,029 ⁹	59,672 ⁹	69,155 ¹⁰	--
Roseville	79,921 ⁴	118,788 ⁸	124,673 ⁹	126,956 ⁹	172,500 ¹⁰	--

NOTE:

2050 population data not available for the cities of Rocklin or Roseville.

SOURCES:

1. U.S. Census, 2000. "Community Facts – for Placer, El Dorado, Sacramento, and Yolo County," American Fact Finder. http://factfinder2.census.gov/faces/nav/jsf/pages/community_facts.xhtml. Accessed August 4, 2014.
2. U.S. Census, 2000. Profile of General Demographic Characteristics: 2000 – Geography: Lincoln city, California.
3. U.S. Census, 2000. Profile of General Demographic Characteristics: 2000 – Geography: Rocklin city, California.
4. U.S. Census, 2000. Profile of General Demographic Characteristics: 2000 – Geography: Roseville city, California.
5. U.S. Census, 2010. Profile of General Population and Housing Characteristics: 2010 – Geography: Placer County, California.
6. U.S. Census, 2010. Profile of General Population and Housing Characteristics: 2010 – Geography: Lincoln city, California.
7. U.S. Census, 2010. Profile of General Population and Housing Characteristics: 2010 – Geography: Rocklin city, California.
8. U.S. Census, 2010. Profile of General Population and Housing Characteristics: 2010 – Geography: Roseville city, California.
9. California Department of Finance. 2014. E-5 Population and Housing Estimates for Cities, Counties, and the State, 2011-2014, with 2010 Census Benchmark. April 2014.
10. California Department of Finance, 2013. Total Population Projections for California and Counties: July 1, 2015 to 2060 in 5-year Increments.
11. Sacramento Area Council of Governments, 2008. Population Estimates, Housing Growth and Distribution: 2005-35 by Jurisdiction.
12. City of Lincoln, 2008. City of Lincoln 2050 General Plan. Adopted March 25, 2008.

City of Lincoln Population

Table 3.13-1 also presents population data and projections for the City of Lincoln. The 2014 population of Lincoln was 45,206. The City experienced a growth rate of 282 percent from the years 2000 to 2010, and, based on the 2050 General Plan projection, the City is anticipated to grow 208 percent from 2010 to the 2050 buildout population of 132,000. It should be noted that due to market conditions during the recession, the City experienced a much lower growth rate than anticipated in the 2050 General Plan, as growth in the last ten years has not been sustained. Therefore, growth projections for 2050 may be overstated, but are relevant for planning purposes. Data for the 2015 Lincoln population exist, but have changed little. From 2014 to 2015, the population in the Lincoln increased from 45,206 to 45,837.³ Employment data were not available for the year 2015 as of this EIR; for consistency purposes, this section utilizes 2014 population data.

³ California Department of Finance, 2014. E-5 Population and Housing Estimates for Cities, Counties, and the State, 2011-2014, with 2010 Census Benchmark. April 2014.

Employment

Regional Employment

Placer County has seen a shift from its traditional economic dependence on railroad, lumber and wood products, and agriculture to a more diversified economy emphasizing construction; financial activities; leisure and hospitality; educational and health services; trade, transportation, and utilities; and other services.⁴ The largest employers in the private sector in Placer County include Kaiser Permanente, Hewlett-Packard Co., Sutter Health, Thunder Valley Casino Resort, and Union Pacific Railroad, each of which employ 2,000 or more people.⁵ Northstar California, a ski resort located in the City of Truckee, is also one of the largest employers in Placer County, with approximately 1,950 employees during the peak season.⁶

Consistent with population growth, the labor force of Placer County has also increased considerably. In September 2014, the labor force was estimated to be 179,900,⁷ up from 147,000 in 2002,⁸ an increase of 22.4 percent. Much like California and the region, Placer County has dealt with considerable job losses due to the recent economic downturn. In 2002, the unemployment rate for Placer County was 4.9 percent; after rising to 11.5 percent in 2010, the unemployment rate was estimated to be 6.1 percent in 2014. This 2014 unemployment rate was lower than the Sacramento County rate of 7.3 percent and the 6.6 percent unemployment rate for El Dorado County, but it is higher than the unemployment rates in the Bay Area counties of San Mateo and San Francisco, which were at 4.3 and 4.7 percent, respectively.⁹ The economy of Placer County is expected to continue improving from the recession levels, thus increasing employment in the region. SACOG estimates that the total employment for Placer County will be 247,676 in 2035.¹⁰

City of Lincoln Employment

The EDD estimates that Lincoln had 6,800 jobs in 2014¹¹ and SACOG estimates this figure will reach approximately 38,400 jobs by 2035,¹² a 465 percent increase.

As of 2014, the major employers for residents living in the City are Thunder Valley Casino Resort (which is located outside of Lincoln), Western Placer Unified School District (WPUSD), Sierra Pacific Industries, Target, Calhoun Construction, Home Depot, Lowes, BZ Plumbing, Inc.,

⁴ Center for Strategic Economic Research, 2014. Placer County Economic and Demographic Profile 2014, p. 39.

⁵ Ibid., p. 57.

⁶ Ibid.

⁷ California Employment Development Department, 2014. Monthly Labor Force Data for Cities and Census Designated Places (CDP). September 19, 2014.

⁸ Center for Strategic Economic Research, 2014. Placer County Economic and Demographic Profile 2014, p. 54.

⁹ Ibid.

¹⁰ Sacramento Area Council of Governments, 2008. Employment Growth and Distribution: 2005-35 by Jurisdiction.

¹¹ California Employment Development Department, 2014. Monthly Labor Force Data for Cities and Census Designated Places (CDP). September 19, 2014.

¹² Sacramento Area Council of Governments, 2008. Employment Growth and Distribution: 2005-35 by Jurisdiction.

Del Webb Communities, Inc., Catta Verdera Country Club, and Raley's.¹³ The City's Background Report for the 2050 General Plan identifies target industries that are considered prime for expansion or that could be attracted away from other areas, particularly the Bay Area.¹⁴ These identified industries include office, retail, and industrial development,¹⁵ and Lincoln has experienced industrial growth largely due to the development near Lincoln Regional Airport.¹⁶ Lincoln Regional Airport is located approximately 0.25 miles to the north of the project site. The City of Lincoln 2050 General Plan also states that the City should aim economic development efforts toward these target industries and should perform activities, such as “gathering information on the firms, developing relationships with individual firms and industry associations, and developing an outreach or marketing program designed to show how Lincoln fits the requirements of the target firms.”¹⁷

Housing

Regional Housing

Placer County contained 152,648 housing units and 132,627 households in 2010, with a vacancy rate of 13.1 percent.¹⁸ In April 2014, there were approximately 157,117 housing units, occupied by 136,682 households. The vacancy rate decreased to 13.0 percent. The relatively high vacancy rate can be attributed in part to the large number of vacation homes in eastern Placer County in the Lake Tahoe area. The average household size changed slightly, from 2.60 persons in 2010 to 2.65 persons per household in 2014.¹⁹

SACOG projects the County will contain 229,238 housing units by 2035.²⁰

City of Lincoln Housing

Residential development has expanded greatly across Lincoln in the last 24 years. In 1990, there were approximately 2,623 housing units in the City.²¹ This grew to 3,907 units in 2000,²² 17,457 units in 2010, and 18,076 units in 2014.²³ The number of households has

¹³ City of Lincoln, 2015. Labor Force & Major Employers. Available: <http://ci.lincoln.ca.us/Default.aspx?Jpage=31044>. Accessed May 12, 2015.

¹⁴ City of Lincoln, 2008. City of Lincoln General Plan Background Report. March 2008. p. 3-1.

¹⁵ Ibid.

¹⁶ Ibid., p. 3-2.

¹⁷ City of Lincoln, 2015. Labor Force & Major Employers. Available: <http://ci.lincoln.ca.us/Default.aspx?Jpage=31044>. Accessed May 12, 2015.

¹⁸ California Department of Finance, 2014. E-5 Population and Housing Estimates for Cities, Counties, and the State, 2011-2014, with 2010 Census Benchmark. April 2014.

¹⁹ Ibid.

²⁰ Sacramento Area Council of Governments, 2008. Housing Estimates, Housing Growth and Distribution: 2005-35 by Jurisdiction.

²¹ Sacramento Area Council of Governments, 2002. Population and Housing for Placer County, by Jurisdiction. January 22, 2002.

²² Ibid.

²³ California Department of Finance, 2014. E-5 Population and Housing Estimates for Cities, Counties, and the State, 2011-2014, with 2010 Census Benchmark. April, 2014.

correspondingly increased from 16,500 households in 2010 to 17,064 households in 2014.²⁴ The 2014 vacancy rate was 5.6 percent.²⁵ SACOG projects the number of housing units in the City will increase to 23,212 housing units and an associated 22,173 households in 2025. The vacancy rate is projected to be 4.48 percent.²⁶ By 2035, SACOG estimates there will be 40,904 housing units in Lincoln.²⁷

Between 2010 and 2014, the number of persons per household has increased in the City, from 2.59 persons per household, to 2.64 persons per household.²⁸

Affordable Housing

The City of Lincoln does not require that planned unit developments and specific plans provide a specified percentage of housing units affordable to low- and moderate-income households without subsidies or regulatory incentives. Even so, the Housing Element of the 2050 General Plan contains policies and goals that are aimed at providing affordable housing options for residents of all income levels.

Jobs/Housing Relationship

A jobs/housing ratio numerically illustrates the relationship between the total number of jobs and the total number of households in a specified region. This ratio indicates the ability of a region to provide both adequate employment and housing opportunities for its existing and projected population, and has implications for such issues as traffic congestion, vehicle miles travelled, air pollutant emissions, greenhouse gas emissions, and the like. The lower the jobs/housing ratio, the fewer number of jobs for residents, resulting in workers commuting out of the area; conversely, a higher jobs/housing ratio indicates a greater number of jobs, suggesting that the workers are commuting into the area. This analysis assumes one employee per household. However, because there are households with more than one worker, an overall jobs/housing ratio of 1 to 1.5 is generally considered balanced (in order to minimize in- or out-commuting), depending on local conditions, and assuming that residents work in their community.

A balance of jobs and housing can benefit the environment by reducing commute times and distances between residential areas and employment centers. Longer commutes result in increased vehicle trip length, which could in turn create environmental effects such as traffic congestion, air quality, and noise. The 2050 General Plan does not quantitatively specify a preferred jobs/housing ratio for the City, but does refer to a SACOG goal of maintaining a reasonable jobs/

²⁴ Ibid.

²⁵ Ibid.

²⁶ Sacramento Area Council of Governments, 2001. Population and Housing for Placer County, by Jurisdiction. January 22, 2001.

²⁷ Sacramento Area Council of Governments, 2008. Housing Estimates, Housing Growth and Distribution: 2005-35 by Jurisdiction.

²⁸ California Department of Finance, 2014. E-5 Population and Housing Estimates for Cities, Counties, and the State, 2011-2014, with 2010 Census Benchmark. April, 2014.

housing ratio in newly developing areas.²⁹ In their projections for the 2035 Metropolitan Transportation Plan (MTP), SACOG projects the City of Lincoln to have a jobs/housing ratio of 0.9 by 2035.³⁰

Although the jobs/housing ratio is a planning concept, it is limited in its usefulness because it does not characterize the types of jobs or housing thoroughly. For example, the ratio does not factor the wage level of the employment opportunities or the cost of the housing units. A region that is characterized as having an adequate jobs/housing ratio could have predominantly low-wage jobs and upscale housing. The result would be employees commuting to the area and residents commuting to jobs outside the area, thereby exacerbating traffic and air quality problems. The jobs/housing ratio also ignores the proportion of retirees in a community. In Lincoln, for example, the Sun City Lincoln Hills community has approximately 6,800 homes. At least one resident in each home must be over 55 years of age, so the proportion of retired people is higher within Sun City than the rest of the City. These age-qualified units do not require that the resident of 55 years or older be retired, but there is an increased likelihood that the resident is also a retiree and is not employed.

Regional

In 2014, there were 168,900 jobs and 136,682 households within Placer County.³¹ Assuming one worker per household (which contains the number of people residing in a housing unit), Placer County's 2014 jobs/housing ratio was 1.24. **Table 3.13-2** includes a summary of the jobs and housing characteristics for Placer County.

TABLE 3.13-2.
2014 EMPLOYMENT AND HOUSING CHARACTERISTICS
PLACER COUNTY AND CITY OF LINCOLN

2014 Characteristics	Placer County	Rocklin	Roseville	Lincoln
Jobs ¹	168,900	26,400	53,100	6,800
Housing Units ²	157,117	22,617	50,077	18,076
Households ²	136,682	21,374	47,248	17,064
Vacancy Rate ²	13.0%	5.5%	5.6%	5.6%
Jobs/Housing Ratio	1.24	1.24	1.12	0.40

SOURCES:

1. Jobs data are from California Employment Development Department 2014. Monthly Labor Force Data for Cities and Census Designated Places (CDP). September 19, 2014.
2. Housing units, households, and vacancy rate data are from California Department of Finance 2014. E-5 Population and Housing Estimates for Cities, Counties, and the State, 2011-2014, with 2010 Census Benchmark. April 2014.

²⁹ City of Lincoln, 2008. City of Lincoln 2050 General Plan. Adopted March 25, 2008.

³⁰ Sacramento Area Council of Governments, 2007. SACOG Projections for MTP 2035: Jobs-Housing Ratio, 2005-35 by Jurisdiction.

³¹ California Employment Development Department, 2014. Monthly Labor Force Data for Cities and Census Designated Places (CDP). September 19, 2014.

City of Lincoln

In 2014, there were approximately 6,800 jobs and 17,064 households within Lincoln.³² This resulted in a jobs/housing ratio of approximately 0.40. Table 3.13-2 summarizes the jobs and housing characteristics for Placer County, neighboring cities Rocklin and Roseville, and the City of Lincoln.

Table 3.13-3 summarizes projected 2035 data for jobs and housing for Placer County, neighboring cities Rocklin and Roseville, and the City of Lincoln. These data rely on the same vacancy rates determined in 2014 by the CDF.

**TABLE 3.13-3.
2035 PROJECTED EMPLOYMENT AND HOUSING CHARACTERISTICS
PLACER COUNTY AND CITY OF LINCOLN**

2035 Characteristics	Placer County	Rocklin	Roseville	Lincoln
Jobs ¹	247,676	27,262	100,402	38,427
Housing Units ²	229,238	26,700	72,789	40,904
Households ³	199,437	25,233	68,677	38,614
Vacancy Rate ⁴	13.0%	5.5%	5.6%	5.6%
Jobs/Housing Ratio	1.24	1.08	1.46	1.00

SOURCES:

1. Jobs data are from Sacramento Area Council of Governments 2008. Employment Growth and Distribution: 2005-35 by Jurisdiction.
2. Housing Units data are from Sacramento Area Council of Governments 2008. Housing Estimates, Housing Growth and Distribution: 2005-35 by Jurisdiction.
3. Households are approximated by applying a vacancy rate to the 2035 housing units.
4. Year 2035 vacancy rates are approximated by applying the same 2014 vacancy rates to the projected 2035 housing unit data.

3.13.2 Regulatory Setting

The following section describes state and local regulations involving population, employment, and housing. There are no specific federal regulations pertaining to population and housing issues that are applicable to the proposed project.

State

Regional Housing Needs Assessment

State law mandates that all cities and counties offer a portion of housing to accommodate the increasing needs of regional population growth. The statewide housing demand is determined by the California Department of Housing and Community Development, while local governments and councils of governments or COGs decide and manage their specific regional and jurisdictional housing needs and develop a regional housing needs assessment (RHNA).

³² Ibid.

In the greater Sacramento region, including the City of Lincoln, SACOG has the responsibility of developing and approving a RHNA and a regional housing needs plan (RHNP) every eight years (Government Code, Section 65580 et seq.). Housing needs are assessed for very low, low, moderate, and above moderate-income households. The RHNP most recently adopted by SACOG in 2012 identifies a total of 3,790 housing units to be built in Lincoln over the period of January 1, 2013 to October 31, 2021, with a breakdown of 953 very-low income units, 668 low income units, 705 moderate income units, and 1,464 above moderate units.³³ Approximately 39 percent of the housing units projected for Lincoln are designated for above moderate incomes and about 25 percent of the housing units are designated for very low incomes.³⁴

Balanced Employment

California Government Code Section 65890.1 expresses the benefits of balanced employment and residential land uses, and declares the intention to move toward the goal that every California worker has the opportunity to reside close to his or her job location.

Local

The following goals and policies from the 2050 General Plan are relevant to population, employment, and housing issues.

Goal ED-3 To promote a diverse and balanced mix of employment and residential opportunities within the City.

Policies

ED-3.1 **Business Expansion and Attraction.** The City shall zone sufficient land for the expansion of existing businesses and attraction of new businesses.

ED-3.2 **Workplace Alternatives.** The City shall facilitate the establishment and expansion of workplace alternatives, including home-based businesses and telecommuting, through land use designations and zoning ordinances.

ED-3.3 **Provide for a Diversity of Housing Choices.** The City shall provide for a range of housing choices for current and future residents through land use designations and zoning ordinances.

ED-3.4 **Provide Live / Work Environments.** The City will look to provide for live / work environments in its historic downtown and in Village centers.

Goal ED-4 To retain existing businesses and attract new businesses to provide jobs for current and future residents.

Policies

ED-4.3 **Attract New Businesses.** The City shall encourage new businesses to locate in the following areas: downtown Lincoln; along the future Highway 65 Bypass; at the Lincoln Regional Airport; and in the business park surrounding the airport.

³³ Sacramento Area Council of Governments, 2012. Regional Needs Housing Plan 2013-2021. Adopted September 20, 2012. Table 1, p. 4.

³⁴ Ibid.

ED-4.5 **Retail Market.** The City shall identify a range of retail development sites and opportunities in order to promote a stronger local and regional retail market which meets the needs of the growing Lincoln population and complements the Lincoln downtown.

ED-4.6 **Regional Commercial.** The City will reserve appropriately zoned property along the State Highway 65 Bypass for future regional commercial land uses such as a regional shopping center, auto mall, or other vehicle sales and services.

Goal ED-6 To preserve, enhance, and expand the existing downtown so that it remains the psychological center of Lincoln.

Policies

ED-6.8 **Urban Decay.** The City recognizes and supports downtown retail development as part of the City's downtown revitalization strategy. The City also recognizes the importance of healthy neighborhood retail centers throughout the City to meet the shopping needs of Lincoln's population. As Specific Plans with retail and/or commercial land uses are submitted for approval, the City will analyze the potential for local urban decay and regional blight.

Goal LU-1 To grow in orderly pattern consistent with the economic, social, and environmental needs of Lincoln.

Policies

LU-1.7 **Housing Choices.** The City will promote the application of land use designs that provide a variety of places where residents can live, including apartments, condominiums, townhouses and single family attached and detached.

LU-1.10 **Mixed Land Uses.** Within the designated Village areas, the City will promote a mixed land use designed to place homes together with smaller businesses, institutional, and community land uses. The Village Core area will utilize the Mixed Use (MU) designation. Mixed land uses could include vertical as well as horizontal design allowing for differing land uses within the same building, as well as within the same project area.

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

Policies

LU-2.8 **Innovative Development.** The City shall promote flexibility and innovation in residential land use through the use of planned unit developments, developer agreements, specific plans, mixed use projects, and other innovative development and planning techniques.

Goal LU-3 To designate adequate commercial land for and promote development of commercial uses compatible with surrounding land uses to meet the present and future needs of Lincoln residents, the regional community, and visitors and to maintain economic vitality.

Policies

LU-3.2 **Commercial Land Use.** The City shall designate sufficient commercial land to meet the future needs of the city.

LU-3.8 **Regional Commercial.** The City will identify and preserve appropriate areas (based on size and location) for development of regional commercial opportunities.

Goal LU-7 To designate, protect, and provide land to ensure sufficient residential development to meet community needs and projected population growth.

Policies

LU-7.1 **Jobs-Housing Balance.** The City shall consider the effects of land use proposals and decisions on the South Placer area and the efforts to maintain a jobs-housing balance.

Goal HE-1 Accommodate new housing to meet the needs of present and future Lincoln residents at all income levels.Policies

- 1 Provide sufficient land zoned for a variety of housing types to accommodate the City's regional housing needs allocation under the January 1, 2013–October 31, 2021 Sacramento Area Council of Governments (SACOG) Regional Housing Needs Plan.
- 2 Facilitate the construction of a variety of housing types affordable to all income levels.

Goal HE-3 Address special housing needs in Lincoln.Policies

- 7 Address the physical, financial, and lifestyle needs of older adults in the city.
- 9 Address the special housing needs of large families to alleviate overcrowding in the city.

Goal HE-4 Promote equal housing opportunities.Policies

- 13 Support equal housing opportunities for all city residents.

The relationship of these 2050 General Plan policies to the V5SP is included in Chapter 5, General Plan Consistency.

3.13.3 Analysis, Impacts, and Mitigation

This section describes the changes to the population, employment, housing stock, and jobs/housing ratio that would be expected to occur within the City of Lincoln if the project is approved. The proposed project includes a mix of housing types, which would have a range of persons per household (PPH). **Table 3.13-4** indicates that approximately 19,449 persons would reside within Village 5 at buildout.

**TABLE 3.13-4.
LINCOLN VILLAGE 5 HOUSING AND POPULATION ESTIMATES**

Unit Type	PPH ¹	Number of Units	Population
RR, CE, LDR ³	2.86	3,879	11,094
MDR ⁴	2.00	2,830	5,660
HDR, VMU	1.80	1,497	2,695
TOTAL	--	8,206	19,449

NOTES:

1. Source for PPH rates: City of Lincoln, 2008. City of Lincoln 2050 General Plan. Adopted March 25, 2008.
2. Source for Number of Housing Units: City of Lincoln, 2016. Lincoln Village 5 Specific Plan. August 12, 2016. p. 6-1.
3. The LDR designation contains 771 age-qualified units (there would be a total of 1,000 age-qualified units upon buildout).
4. The MDR designation contains 229 age-qualified units (there would be a total of 1,000 age-qualified units upon buildout).

Significance Criteria

For the purposes of this EIR, impacts to population, employment and housing are considered significant if the proposed project would:

- Directly or indirectly induce substantial population growth;
- Displace substantial numbers of people or existing housing, necessitating the construction of replacement housing elsewhere.

Methodology and Assumptions

The V5SP includes several uses that would generate employment—4,602,600 square feet of commercial/office space, three elementary schools, a middle school, a high school, and public facilities. The proposed commercial uses would be composed primarily of various retail uses across the project site, with multiple Village Center (VC), Village Mixed Use (VMU), Village Commercial (VCOMM), Village Office/Commercial (VOC), and Village Business and Professional (VBP) sites. At buildout, the V5SP would generate 11,296 jobs. The estimated employment generation figures for the proposed project were derived from the Village 5 Urban Decay Analysis contained in Appendix I. These estimates are presented over for four separate phases of development and are broken down into four categories: retail, office, hotel, and public services.³⁵ Additional employees would be generated at the proposed police station and fire stations. However, for purposes of this analysis, potential employees are not quantified as it is likely that police and fire personnel would initially be relocated from existing stations until the City is prepared to increase staffing levels. The estimated number of employees that would be generated by the proposed project is shown in **Table 3.13-5**.

The jobs/housing balance is described and evaluated as one of the metrics to measure population growth and analyze its impacts. A jobs/housing ratio of 1.0 indicates there is one job for every housing unit.

³⁵ ALH Urban & Regional Economics, 2015. Village 5 Specific Plan Area – Urban Decay Analysis. Prepared for Environmental Science Associates (ESA). April 2015.

**TABLE 3.13-5.
VILLAGE 5 EMPLOYMENT GENERATION**

Timeframe ¹	Estimated Completion Year	Retail	Office	Hotel	Public Services ²	Total
Incremental						
Phases 1 and 2	2022	207	0	0	47	254
Phase 3	2024	1,650	0	50	0	1,700
Phase 4A	2032	0	5,656	0	237	5,893
Phase 4B	2042	3,733	0	0	0	3,733
Total	--	5,590	5,656	50	284	11,580

NOTES:

Phase 1 comprises all of Area A residential, Phase 2 comprises one third of Area A commercial square footage. Phase 3 includes the remainder of Area A commercial square footage. Phases 4A and 4B reflect planning areas B-J.

Within the Public Services data, Phases 1 and 2 contain one elementary school that is projected to generate 47 teachers, while Phase 4A separately contains two elementary schools, one middle school, and one high school. The two additional elementary schools are projected to generate 94 teachers (47 at each school), the middle school is projected to generate 59 teachers, and the high school is projected to generate 84 teachers.

SOURCES:

Public Services data: Western Placer Unified School District. 2015. Board of Trustees Meeting Fact Sheet (Adopted Budget). June 16, 2015. p. 3.

All other data: ALH Urban & Regional Economics, 2015. Village 5 Specific Plan Area – Urban Decay Analysis. Prepared for Environmental Science Associates. April 2015.

Impacts and Mitigation Measures

Impact 3.13-1: The proposed project would induce substantial population growth in an area.

Full Specific Plan

The Plan Area is located in a low-density, predominantly rural area with a low population count. There are scattered residences throughout the area on large lots, with minimal infrastructure for a rural County standard. Main roadways consist of two-lane roads. There are currently no commercial, retail, public service, or active recreation facilities within the Plan Area. Upon buildout of the V5SP, 8,206 housing units would be built and approximately 4,581,600 square feet of non-residential space would be constructed, accommodating 11,580 jobs (see Table 3.13-5). In addition, the proposed project would allocate 1,000 housing units to an age-qualified population—771 housing units within a Village Low Density Residential (VLDR) designation and 229 housing units within a Village Medium Density (VMDR) designation.

The proposed project's jobs/housing ratio would be approximately 1.41. That is, there would be approximately 1.41 jobs for every housing unit within the Plan Area. A jobs/housing ratio over 1.0 indicates that there are more jobs than housing units in an area, resulting in people commuting into an area for work.

As of 2014, Lincoln had a jobs/housing ratio of 0.40; in other words, there are 0.40 jobs for every housing unit in Lincoln.³⁶ If the jobs and housing units projected in the proposed project were added to the existing jobs and housing in the City, the citywide jobs/housing ratio would climb to 0.73. The V5SP would contribute to an improved jobs/housing ratio in the City.

Maintaining a jobs-housing ratio closer to 1.0 can bring a community closer to minimized commute times and lessened amount of vehicle miles traveled, which in turn can affect the level of population growth that is induced. In particular, if a community is capable of providing nearly equal levels of employment and housing, it is possible for employees to choose housing that is close to their jobs and thereby avoid seeking housing in other, more distant communities. Thus, a more balanced jobs-housing ratio has the potential to minimize the inducement of population growth. Development of the Plan Area would bring the jobs/housing ratio closer to 1.0, but it would not guarantee that people would choose to live and work in the same community. Further, implementation of the V5SP would directly result in a substantial increase in population in Lincoln. However, infrastructure such as roadways and utilities piping would not be oversized to accommodate more development than is planned for the proposed project.

As is described elsewhere in other sections of this Draft EIR, this growth would result in a number of physical effects to natural or human environmental resources. Although the implementation of the V5SP would result in the development of approximately 8,000 housing units and approximately 4.6 million square feet of non-residential space, resulting in growth of residential population and employment within the Plan Area, the magnitude of growth that would be accommodated in the Plan Area is consistent with the intent of the City of Lincoln 2050 General Plan. However, despite this consistency, the project would induce substantial growth and resulting physical environmental effects. Therefore, the proposed project would directly result in a significant population increase, resulting in a **potentially significant** impact.

Area A

Area A is located in a low-density, predominantly agricultural area with a low population count. There are scattered residences throughout Area A on large lots, with a minimal level of infrastructure similar to the project site as a whole. At buildout, Area A would include 2,221 housing units, consisting of 809 low-density residential (LDR) units and 1,412 medium-density residential (MDR) units. There would be a total population of 5,138 people in Area A (see **Table 3.13-6**).

As presented in **Table 3.13-7**, Area A would include a total of 1,094,000 square feet of commercial uses and consist of 342,100 square feet of Village Commercial and 751,900 square feet of Commercial uses. Assuming 500 square feet per commercial/retail employee, Area A would generate 2,188 commercial/retail jobs. This figure of 500 square feet per commercial/retail employee was based on the Village 5 Urban Decay Analysis developed for Lincoln Village 5.³⁷

³⁶ California Employment Development Department, 2014. Monthly Labor Force Data for Cities and Census Designated Places (CDP). September 19, 2014.

³⁷ ALH Urban & Regional Economics, 2015. Village 5 Specific Plan Area Urban Decay Analysis. April 2015. p. 14.

**TABLE 3.13-6.
LINCOLN VILLAGE 5 AREA A POPULATION ESTIMATES**

Unit Type	PPH ¹	Number of Units ²	Population
LDR ³	2.86	809	2,314
MDR ⁴	2.00	1,412	2,824
HDR, VMU	1.80	0	0
TOTAL	--	2,221⁵	5,138

NOTES:

1. Source for PPH rates: City of Lincoln. 2008. City of Lincoln 2050 General Plan. Adopted March 25, 2008.
2. Source for Number of Housing Units: City of Lincoln. 2016. Lincoln Village 5 Specific Plan. August 12, 2016. p. 6-1.
3. The LDR designation contains 771 age-qualified units.
4. The MDR designation contains 229 age-qualified units.
5. There would be a total of 1,000 age-qualified units upon buildout of Area A.

**TABLE 3.13-7.
AREA A EMPLOYMENT ESTIMATES**

Use Type	Square Feet per Employee	Square Footage	Staff per School	Employment
Village Commercial and Village Office/Commercial ¹	500	1,094,000	--	2,188 ¹
Elementary School ²	--	--	47	47 ²
TOTAL	--	--	--	2,235

NOTES:

1. Development of employment uses in Area A correspond to the development of Phases 2 and 3 as described in the Urban Decay Analysis. Phase 2 comprises one third of Area A commercial square footage. Phase 3 includes the remainder of Area A commercial square footage.
2. One elementary school would be constructed within Area A.

SOURCES:

1. ALH Urban & Regional Economics, 2015. Village 5 Specific Plan Area – Urban Decay Analysis. Prepared for Environmental Science Associates (ESA). April 2015. p. 14, Table 3.
2. Western Placer Unified School District. 2015. Board of Trustees Meeting Fact Sheet (Adopted Budget). June 16, 2015. p. 3.

There would also be one elementary school within Area A. This would add an additional 47 school jobs to Area A, resulting in a total of 2,235 jobs in Area A. This assumption was derived from the WPUSD 2015-2016 adopted budget, which has an actual staff estimate of 47.0 employees per elementary school site.³⁸

Based on the Area A totals of 2,221 housing units and 2,235 jobs, the jobs/housing ratio for Area A would be approximately 1.01. As noted above, it is the policy of the City to strive to increase the jobs/housing ratio in the City from the current jobs/housing ratio of 0.40. Development of Area A would increase the City's overall jobs/housing ratio to 0.47, a small improvement over existing conditions.

³⁸ Western Placer Unified School District, 2015. Board of Trustees Meeting Fact Sheet (Adopted Budget). June 16, 2015. p. 4.

Much like development under the full V5SP, development of Area A would bring significant population growth to an area that currently has few residents. Development of infrastructure for Area A would be sized to accommodate growth anticipated under Area A, and would not be oversized to include accommodation of buildout of Areas B-J within the V5SP.

Although there would be an increase in the amount of residential and non-residential development with the completion of Area A, the amount of development is also accounted for in the City of Lincoln 2050 General Plan, as seen for the wider proposed project. However, although the development of the V5SP would be generally consistent with the 2050 General Plan, the project would induce substantial growth and concomitant physical environmental effects. This would be considered a **potentially significant** impact.

Mitigation Measure

None available.

The V5SP would inevitably cause an inducement of substantial population growth with the buildout of the project site because it would house new residents in the City. Thus, the proposed project would have a **significant and unavoidable** impact on population growth.

Impact 3.13-2: The proposed project would not displace substantial numbers of people or existing housing, necessitating the construction of replacement housing elsewhere.

Full Specific Plan and Area A

The proposed project contemplates a mixed-use village that would include various types of residential, commercial, office, recreational, and public uses in what is now a low-density, predominantly agricultural area. Currently, there are approximately 150 residences within the entire 4,787-acre Plan Area. While the proposed project could result in the replacement of some of these residences, individual property owners would not be required to sell and/or relocate their homes. Furthermore, any homes that are demolished would be the result of a voluntary sale of the property by the property owner(s), and there would be new housing within the Plan Area at various price points for such owners to purchase. As a result, the project would not displace a substantial number of people and would not necessitate the construction of replacement housing elsewhere. Therefore, the project would have **no impact** on existing housing or the need for replacement housing.

Mitigation Measure

None required.

Cumulative Impacts

Future development in the City of Lincoln is based on the concept of villages and special use districts (SUDs); in total seven villages and three SUDs are envisioned, along with growth projected within the existing City, for the buildout of the City of Lincoln 2050 General Plan. The City intends to develop villages and SUDs in a manner to promote a more mixed-use design and system that incorporates smart growth principles and recognizes the existing environmental and constraints within each village. According to the General Plan, the villages are each expected to provide a village center containing higher density housing, neighborhood scale commercial uses, schools and recreational facilities, and public facilities. The villages would also feature a mixture of housing types and densities throughout, and provide extensive bicycle and pedestrian access, along with ample open space to emphasize a sense of interconnection between the villages.³⁹ For this cumulative analysis, the year 2050 was used as a future year scenario. In particular, this analysis looks at the growth of the Lincoln sphere of influence (SOI) in combination with growth in the cities of Rocklin and Roseville, two neighboring jurisdictions within Placer County that are similarly planned to grow substantially over the next two decades. As identified in Tables 3.13-1 and 3.13-3, the City of Rocklin is projected to reach a population of 69,155, with 27,262 jobs and 26,700 housing units available in the year 2035. Roseville is projected to have a population of 172,500 people, with 100,402 jobs and 72,789 housing units available in 2035.

As described in Impact 3.13-2 above, the V5SP would have no impact on the displacement of housing within the Plan Area. Because the proposed project could not contribute to the cumulative displacement of housing, a cumulative analysis is not included.

Impact 3.13-3: The proposed project would cumulatively induce substantial population growth in an area, either directly (by proposed new homes and businesses) or indirectly (through the extension of roads or other infrastructure).

The V5SP is within a largely undeveloped, low-density, and predominantly rural area of Placer County that is developing along the State Route (SR) 65 Corridor, which runs primarily from Lincoln to neighboring Rocklin and Roseville within the South Placer locale. Upon buildout of the proposed project, approximately 8,000 housing units would be built for 19,449 residents and approximately 4.6 million square feet of non-residential space would be constructed, accommodating 11,580 jobs (see Table 3.13-5). Although the development of the proposed project would be generally consistent with the 2050 General Plan and the specific goals envisioned for Lincoln Village 5, the project would induce substantial growth and accompanying physical environmental effects. No feasible mitigation measures have been identified.

Because of the intent of jobs/housing balance is to minimize the length of work commutes, the nature of jobs/housing relationships must be considered in the regional context. The jobs/housing relationships in South Placer County, namely Lincoln, Rocklin and Roseville, provide many

³⁹ City of Lincoln, 2008. City of Lincoln 2050 General Plan. Adopted March 25, 2008.

employment opportunities for residents living throughout South Placer County. Based on the information presented in Table 3.13-3 above, the overall jobs/housing ratio in South Placer County is anticipated to be 1.25 in 2035. This means that under cumulative conditions, South Placer County would have more jobs than households. Maintaining a jobs-housing ratio close to 1.0 can bring a community closer to minimized commute times and lessened amount of vehicle miles traveled, which in turn can affect the level of population growth that is induced. In particular, if a community is capable of providing nearly equal levels of employment and housing, it is possible for employees to choose housing that is close to their jobs and thereby avoid seeking housing in other, more distant communities. Thus, a more balanced jobs-housing ratio has the potential to minimize the inducement of population growth. However, incremental growth in the region through 2035 would result in substantial population growth in South Placer County.

The Cities of Lincoln, Rocklin, and Roseville are all projected to grow over the next 20 years, both geographically to newer undeveloped (and largely agricultural) land and within denser existing parcels. In particular, Roseville is projected to grow to the north and west substantially over the next 20 years while Lincoln is projected to expand to the southwest and west, resulting in a denser and more closely connected interface between the two cities. However, the buildout population of the proposed project would be 19,449 in 2050, which, when compared with the Lincoln 2050 General Plan buildout population of 132,000 people,⁴⁰ amounts to 14.7 percent of the 2050 buildout population. In other words, the 2050 population of Lincoln Village 5 would be approximately one-seventh of the 2050 General Plan buildout population in the City of Lincoln. In comparison to the anticipated growth in South Placer County, the V5SP would contribute 5.4 percent of the population by 2035. The contribution of the proposed project to the growth of Lincoln and to South Placer County as a whole would be considerable. Therefore, the project would make a cumulatively considerable contribution to the cumulative impact, and the cumulative impact would be **potentially significant**.

Mitigation Measure

None available.

The proposed project would inevitably cause an inducement of substantial growth to the City of Lincoln and the South Placer Region because it would increase the number of residents within the City by constructing approximately 8,206 residential units at the project site. Additionally, as a result of the proposed project contributing approximately 14.7 percent of the 2050 General Plan buildout population for the City of Lincoln and 5.4 percent to the South Placer Region by 2035, this would create a cumulatively considerable impact. Thus, the proposed project would result in a **significant and unavoidable cumulative impact**.

⁴⁰ City of Lincoln, 2016. Lincoln Village 5 Specific Plan. August 12, 2016. p. 6-1.

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3.14 Public Services and Recreation

This section addresses potential impacts to public services (including police protection, fire protection, and schools), recreation (including parks and libraries), and any public safety issues related to the proposed project. The environmental setting describes emergency response services from the police and fire departments, schools, recreation facilities, and libraries within the proposed project and the City of Lincoln. The regulatory setting section discusses the applicable federal, state, and local regulations and policies that affect the proposed project. Section 3.9, Hazards/Hazardous Materials, discusses possible impacts to access and response plans for emergency services.

Comments related to public services received during the public comment period on the NOP for the EIR mentioned a concern regarding the increased demand for schools, and whether the school district would have the funding capabilities to accommodate this growth. The section discussing schools, later in this chapter, will address these specific issues.

The analysis provided in this section was developed based on construction and operational features specific to the proposed project and data provided in the 2012 City of Lincoln Public Facilities Element Fee Program: Nexus Study Update, City of Lincoln 2050 General Plan (hereafter referred to as the 2050 General Plan), the City of Lincoln 2050 General Plan Update Environmental Impact Report (hereafter referred to as the 2050 General Plan EIR), and supplemental information from the City of Lincoln Police Department, Lincoln Fire Department, and Western Placer Unified School District.

3.14.1 Environmental Setting

City of Lincoln Public Facilities Element Fee Program: Nexus Study Update

In 2012, Goodwin Consulting Group published an update to the August 2006 nexus study of the Public Facilities Element Fee Program (hereafter referred to as the 2012 Nexus Study Update) to enable compliance with AB 1600 (also known as the Mitigation Fee Act) for the City of Lincoln, ensuring that a rational nexus exists between future development in the City and (i) the use and need of the proposed infrastructure and capital facilities and (ii) the amount of the Public Facilities Element (PFE) Fee assigned to future development.¹ The central purpose of the 2012 Nexus Study Update is to analyze and ensure that the relationship between the PFE Fee levied on land uses and the facilities cost per each unique land use remains reasonable for the City and its

¹ Goodwin Consulting Group, 2012. City of Lincoln Public Facilities Element Fee Program: Nexus Study Update. February 9, 2012. p. 2.

continued development, and reflects the actual cost of making necessary infrastructure and services improvements.²

The 2012 Nexus Study Update provides extensive analysis pertaining to the fee methodologies that were utilized to calculate fee components, the demographic and land use assumptions that developed these calculations, and an overall summary of all infrastructure and capital facilities costs that would be included in the PFE Fee Program.

The City of Lincoln has applied a PFE Fee Program for all future growth within the 1988 Sphere of Influence (SOI), and is designed to contain separate fee categories based on type of capital facility and infrastructure. The 2012 fees presented in the 2012 Nexus Study Update are the most recently adopted fees for development in Lincoln. This regulation affects the proposed project because it is located within both the 1988 and present SOIs. Four residential land use types are assigned unique fees per unit within the PFE—very low density, low density, medium density, and high density. In addition, three classes of non-residential land uses are assigned unique fees per 1,000 square feet within the PFE—commercial, business and professional, and industrial. Funds provided from these fees, which the developer would provide prior to permitting, would be allocated to the specific infrastructure and service types to enable development of the Plan Area, subject to the requirements of the 2012 Nexus Study Update. PFE fees are applied to a number of categories including parks, police, fire, and solid waste services and infrastructure; roadway infrastructure, and utilities infrastructure for water supply, wastewater, reclaimed water, and drainage.

The City of Lincoln is currently in the process of updating its PFE Fee Program, which would influence all future payments of infrastructure and services. Once the updated PFE Fee Program is adopted, PFE fees would be applied citywide, including those areas that are planned or currently being constructed.

Police Protection

The Placer County Sheriff's Office (PCSO) currently provides police protection services for the area within the proposed project as well as several other unincorporated areas of Placer County, also including the City of Colfax and the Township of Loomis.³ However, upon annexation, law enforcement responsibilities would transfer to the City of Lincoln Police Department (LPD).

LPD manages a variety of roles and responsibilities related to law enforcement, including patrols, criminal investigations, crime analysis, managing evidence, managing the contract for animal control services, traffic enforcement, youth services, and community programs such as Citizens

² Ibid.

³ Placer County Sheriff's Office, 2014. Available: <http://www.placer.ca.gov/Departments/Sheriff>. Accessed July 8, 2014.

on Patrol.⁴ There were 19,778 calls for service, 5,566 officer-initiated incidents, 1,418 vehicle and pedestrian checks, 1,688 traffic stops, 324 misdemeanor arrests, and 162 felony arrests, in the year 2014.⁵

LPD also provides dispatch services for all 911 calls, for both police and fire, and processed 40,310 calls for service in 2014.⁶

In 2014, the LPD had 30 employees, including 19.5 full-time, sworn police (including the positions of chief of police, sergeant and officer), four sworn reserve officers and 7.5 non-sworn and civilian support staff (e.g., dispatchers, records staff, an administrative assistant, and a community service officer or CSO).⁷ Staff levels have dropped over the last several years due to changes in the economy. For example, in 2009, there were 31 full-time police and 10 non-sworn staff.⁸ LPD staff also receives support from a group of volunteers, the Lincoln Police Volunteer Program, who provide assistance with administrative, patrol and youth functions. In 2014, there were 46 volunteers in the Lincoln Police Volunteer Program.⁹ Overall, the Lincoln Police Volunteer Program provided over 11,000 hours of service for the Lincoln community over the year 2014.¹⁰

LPD has nine service areas. Area 4 is closest to the Plan Area and comprises part of Beat 2, which contains Area 4 and Area 9. There is one police station in Lincoln, which is located at 770 7th Street approximately two miles northeast of the Plan Area. While LPD averaged a response of eight minutes and 40 seconds for Priority One calls in 2014,¹¹ LPD generally responds to all emergency calls within seven minutes.¹² The response times of LPD are dissimilar to Lincoln Fire Department as LPD does not have response areas by which to gauge in the same manner, and responses are entirely subject to availability and priority.¹³

In order to establish space requirements for police facilities, the City's 2012 Nexus Study Update provides assumptions of the following ratios: 1.87 sworn officers per 1,000 residents, 0.4 non-sworn staff per 1,000 residents, and 475 square feet of office space per police department employee.¹⁴ Based on a 2050 General Plan buildout population of 132,000 residents,¹⁵ the City

⁴ Lincoln Police Department. 2014. "About Us," Available: <http://www.lincolnpd.org/#!/aboutus/coyq>. Accessed October 3, 2014.

⁵ Lincoln Police Department. 2015. 2014 Annual Report.

⁶ Ibid.

⁷ Ibid.

⁸ Lincoln Police Department. 2013. 2012 Annual Report.

⁹ Lincoln Police Department. 2015. 2014 Annual Report.

¹⁰ Ibid.

¹¹ Lincoln Police Department. 2015. Incident Response Times: 2014. August 24, 2015.

¹² Marks, Rex, Police Chief, City of Lincoln Police Department, electronic communication to Jim Bermudez, August 18, 2015.

¹³ Ibid.

¹⁴ Goodwin Consulting Group. 2012. City of Lincoln Public Facilities Element Fee Program: Nexus Study Update. February 9, 2012. Table A-22.

¹⁵ City of Lincoln, 2006. City of Lincoln 2050 General Plan Update Draft Environmental Impact Report. SCH# 2005112003. October 2006. p. 2-17, Table 2-3.

would have a need for 247 sworn officers, 53 non-sworn staff, and 142,329 square feet of office space for police operations. However, the ability for the City to meet these staffing ratio and square footage goals are influenced by police department and community needs and availability of funding. Currently, LPD's one police station, located at 770 7th Street, is approximately 16,000 square feet in size. Fees collected from the proposed project and other projects would be used to fund the construction of the new facility.¹⁶

Fire Protection

The Placer County Fire Department (PCFD) currently provides fire protection services to the Plan Area, under the jurisdiction of the California Department of Forestry and Fire Protection (CAL FIRE). Upon the implementation of the proposed project, Lincoln Fire Department (LFD) would assume the fire protection duties for the Plan Area.

The LFD offers fire suppression, emergency medical services (EMS), fire prevention, and training. All personnel continue to receive a minimum of 20 hours of monthly training,¹⁷ and are able to provide first-responder levels of first aid and cardiopulmonary resuscitation (CPR). Primary activities of LFD include fire code enforcement, plan checking, hazardous material enforcement, fire investigation and hazard abatement.

As of August 2015, LFD is staffed by 21 full-time personnel, including one fire chief, two battalion chiefs, six fire captains, and 12 firefighters.¹⁸ Additionally, LFD has 10 reserve firefighters, four volunteer firefighters, and two administrative volunteers, and also employs multiple fire plan consultants on call for plan review.¹⁹

LFD currently operates three fire stations:

- Station 33: 17 McBean Park Drive, located approximately two air miles to the northeast of the Plan Area. Station 33 was closed in 2008 as a result of budget cuts, but re-opened in early 2014.²⁰
- Station 34: 126 Joiner Parkway, located approximately 0.5 air miles to the northeast of the Plan Area.
- Station 35: 2525 East Joiner Parkway, located approximately three air miles to the southeast of the Plan Area.

Station 34 is approximately 0.5 air miles to the northeast of the Plan Area, and about 1.5 air miles to the east of Area A, which is the first phase of the V5SP. The Plan Area is located within seven

¹⁶ City of Lincoln, 2012. Public Facilities Element Fee Program: Nexus Study Update. February 9, 2012.

¹⁷ City of Lincoln, 2014. "About the Fire Department," Available: <http://ci.lincoln.ca.us/default.aspx?Jpage=48000>. Accessed October 6, 2014.

¹⁸ Davis, Mike, Fire Chief, City of Lincoln Fire Department, electronic communication, August 26, 2015.

¹⁹ Ibid.

²⁰ Roseville & Granite Bay Press Tribune, 2014. Lincoln Fire Department Reopens Fire Station No. 33. Available: <http://www.thepresstribune.com/article/lincoln-fire-department-reopens-fire-station-no-33>. Accessed October 7, 2014.

driving miles of LFD Stations 33, 34, and 35 by surface streets. Most of the Plan Area currently cannot be reached by public roads, so emergency vehicles must use private and ranch roads if there are fires within the Plan Area.

The City is signatory to the Placer County Fire Agencies Mutual Aid Agreement. Placer County contracts with CAL FIRE for fire protection services in the unincorporated portions of the County, including the Plan Area. The station that serves the project area is currently located at Station 77 (Sunset Station) at 1300 Athens Avenue, approximately 2.5 air miles to the southeast of the Plan Area.

Response times, staffing, and equipment contribute to the Insurance Services Office (ISO) rating. Insurance rates for property owners are based, in part, on the ISO rating for a city. The ISO scale ranges from 1 to 10, with 1 representing the best service. LFD presently has an ISO rating of 4, effective January 1, 2015.²¹ Over the 2013-14 fiscal year, LFD had response times within five minutes for 26 percent of its 3,262 incidents, five to seven minutes for 34 percent of the time, seven to 10 minutes for 31 percent of the time, and calls longer than 10 minutes for nine percent of the time.²² The City has a goal of the first company arriving within five minutes 80 percent of the time, although this response time goal does not factor in directly to the LFD's ISO rating and is not codified in policy. The LFD anticipates achieving this goal as additional funding becomes available.²³

The City's 2012 Nexus Study has established the following guidelines to determine the allocation of fire protection facilities: 1.26 firefighters per 1,000 residents and 917 square feet of fire station facilities per firefighter.²⁴ Within the 2050 General Plan, Policy PFS-8.4 requires that City firefighting capability be sufficient to maintain a fire response time of five minutes or less as a general guideline for service provision and locating new fire stations.²⁵ With a total of 20 paid staff firefighters, the fire department provides 0.44 firefighters per 1,000 residents and approximately 20,000 square feet of space.

Schools

Western Placer Unified School District (WPUSD) is the main provider of primary and secondary education in both the Plan Area and the City of Lincoln as a whole. In total, WPUSD operates 12 school sites; there are seven elementary schools (grades K-5), two middle schools (grades 6-8), one comprehensive high school (grades 9-12), one continuation high school, and one charter school with Horizon Instructional Systems.²⁶ WPUSD also features a 280-acre school farm,

²¹ Davis, Mike, Fire Chief, City of Lincoln Fire Department, electronic communication, August 26, 2015.

²² City of Lincoln Fire Department. 2015. Priority Response Time Threshold Report--Report Period: From 1/1/2014 to 12/31/2014. Printed August 25, 2015.

²³ Davis, Mike, Fire Chief, City of Lincoln Fire Department, electronic communication to Jim Bermudez, August 19, 2014.

²⁴ City of Lincoln, 2012. General Plan Public Facilities Element Nexus Study Final Report, 2006.

²⁵ City of Lincoln, 2008. City of Lincoln 2050 General Plan. Adopted March 25, 2008.

²⁶ Western Placer Unified School District, 2014. School Facilities Master Plan: June 2014. June 2014.

located entirely within the Plan Area boundaries. Current enrollment is approximately 6,676 students, with 3,516 students in grades K-5, 1,535 students in grades 6-8, and 1,625 students in grades 9-12.²⁷

The Plan Area is within the site boundaries for Creekside Oaks Elementary School (2030 First Street, Lincoln, CA) for much of the site, with a small portion to the south of Moore Road zoned for Lincoln Crossing Elementary School (635 Groveland Lane, Lincoln, CA). The Plan Area is also within the site boundaries for Glen Edwards Middle School (204 L Street, Lincoln, CA) and Lincoln High School (790 J Street, Lincoln, CA). In Lincoln, students may also attend Phoenix High School (grades 9-12) at 870 J Street, Horizon Charter Schools (grades K-12) at 2800 Nicolaus Road, #100, and Community Christian Schools (grades Pre-K-8) at 1545 1st Street.

Creekside Oaks Elementary School serves students in grades K-5. This school has a design capacity of 882 students, and 612 students were enrolled for the 2013-2014 school year (see **Table 3.14-1**).

**TABLE 3.14-1.
WPUSD SCHOOLS AND CAPACITIES IN THE PLAN AREA VICINITY**

School Name	Design Capacity	Current Enrollment	Excess Capacity
Creekside Oaks Elementary School	882	612	270
Lincoln Crossing Elementary School	678	692	-14
Glen Edwards Middle School	1,135	713	422
Lincoln High School	1,875	1,561	314

SOURCES: Western Placer Unified School District. 2014. School Facilities Master Plan: June 2014. June.

Lincoln Crossing Elementary School also serves students in grades K-5. Lincoln Crossing has a design capacity of 678 students, and 692 students were enrolled for the 2013-2014 school year (see Table 3.14-1).

Glen Edwards Middle School serves students in grades 6-8. This school has a design capacity of 1,135 students, and 713 students were enrolled for the 2013-2014 school year (see Table 3.14-1).

Lincoln High School serves students in grades 9-12. Lincoln has a design capacity of 1,875 students, and 1,561 students were enrolled for the 2013-2014 school year (see Table 3.14-1).

Parks and Recreation

The City of Lincoln owns and operates public parks within the City. There are 14 parks in Lincoln, which are described below.

²⁷ Ibid.

Auburn Ravine Park is a 10-acre park that features an off-leash dog park and multi-use trail system at Moore Road and Green Ravine Drive.

Brown Park is a 0.7-acre pocket park featuring a play structure, a grassy area, and a picnic area at McClain Drive and Lindbergh Drive.

Coyote Pond Park is a 24.5-acre park with a play structure, a picnic area, a pond, and a trail system on Old Kenmare Drive.

Foskett Regional Park, along Finney Way, consists of 42 acres and contains a lighted softball complex with four diamonds, a lighted soccer complex, concessions, a pedestrian and bike path, picnic areas, and children's play equipment.

Joiner Park at Joiner Parkway and Nicolaus Road is a 13-acre park with two football/soccer fields, one softball/baseball diamond, two play structures, and an approximately four acre vernal pool/intermittent wetland preserve.

Machado Park is a 4.7-acre park with two children's play structures and a picnic area located on Downing Circle.

Markham Park has a playground, a picnic and barbeque area, trail system, and nature interpretive facility on 4.7 acres on Toyon Circle at Cobblestone Drive.

McBean Park is comprised of 24 acres and is located on McBean Park Drive. The park includes a playground, a skate park, basketball courts, horseshoe courts, a football/baseball stadium, a swimming pool, a barbeque area, a bandstand, restrooms, picnic areas, and open turf areas.

Pete Demas Park, located on Stansbury Circle, is a 0.8-acre pocket park with a grassy area and picnic benches.

Peter Singer Park at Danbury Drive and Groveland Lane is five acres in size and includes baseball/softball fields, a soccer field, a play structure, picnic tables, and restrooms.

Scheiber Park, 4.5 acres at the corner of Third Street and Santa Clara Way, contains play structures and a picnic area.

Sheffield Park is a 1.5-acre park with play structures, swings and picnic areas located on Sheffield Lane.

Twelve Bridges Park on Eastridge Drive is a five-acre park with a baseball/softball field, a soccer field, and a play structure.

Wilson Park is adjacent to Twelve Bridges Middle School, at the corner of East Lincoln Parkway and Westview Drive. The park includes softball fields and a play structure on 6.5 acres on land.

In addition, there are a few major private facilities, listed below, that offer recreational opportunities for Lincoln and the region.

Turkey Creek is an approximately 223-acre, 18-hole golf course that is privately owned by ClubCorp.²⁸ This golf course is located within Lincoln Village 1, which is to the northeast of the Plan Area, and also hosts wedding and corporate events.²⁹

Catta Verdera Country Club is a semi-private club, which offers an 18-hole golf course, a large Clubhouse, and hosts wedding and corporate events. It is located in Twelve Bridges – south of the Turkey Creek Golf Course and north of the Whitney Oaks Ranch Golf Course.

Hellenic Park consists of roughly 160 acres and is privately owned by the Hellenic Orthodox Education & Cultural Center, a non-profit organization. This park is located southeast of the intersection of Dowd Road and Moore Road. The Hellenic Orthodox Education & Cultural Center periodically utilizes the park for large outdoor events that cater to the Greek community, as well as other groups and organizations.³⁰

Garcia's Hunting Preserves provides multiple private hunting areas in the form of two hunting ranches. It is also located in the vicinity of the Plan Area, with entrances to one ranch at Nicolaus Road east of SR 65 and the other ranch Dowd Road south of Nicolaus Road (just south of Markham Ravine).³¹

Coon Creek Trap & Skeet is a shooting club located to the northwest of the Plan Area, just north of Coon Creek. This club offers a variety shooting disciplines, including trap, international trap, bunker trap, skeet, and sporting clays.³²

Libraries

The City of Lincoln owns and operates its public library system. Lincoln Public Library serves as the sole public library for the city of Lincoln, located at 485 Twelve Bridges Drive.³³ This library is 43,000 square feet in size.³⁴

²⁸ Turkey Creek Golf Club, 2015. "Golf," Available: <http://www.clubcorp.com/Clubs/Turkey-Creek-Golf-Club>. Accessed August 27, 2015.

²⁹ Ibid.

³⁰ Hellenic Park. 2015. "Welcome to our website!" Available: <http://hellenicpark.org/>. Accessed 8/27/2015.

³¹ Garcia's Hunting Preserves. 2015. "Home," Available: <http://www.garciashuntingpreserves.com/>. Accessed August 27, 2015.

³² Coon Creek Trap & Skeet Club, 2015. "About Us," Available: <http://www.cooncreekttrap.com/about.html>. Accessed August 27, 2015.

³³ City of Lincoln, 2014. "Libraries," Available: <http://www.ci.lincoln.ca.us/default.aspx?Jpage=41400&>. Accessed July 31, 2014.

³⁴ Hart, Renae, Supervisor for Lincoln Public Library, personal communication. August 27, 2015.

3.14.2 Regulatory Setting

State and local regulations pertaining to public services are described below. There are no federal regulations specific to this resource topic.

State

California Code of Regulations

The California Code of Regulations (CCR), Title 5, governs all aspects of education within the State of California. Section 14030 provides specific details for development of plans for the design and construction of future schools. In particular, school districts are required to design school sites to meet the specific educational requirements subject to California Department of Education approval and provide sufficient placement of classrooms, playgrounds, fields, delivery and utility areas, and other buildings. Sections 42600 through 42603 establish the budgeting standards for school districts in the state, identifying specific requirements for transferring funding.

California Department of Forestry and Fire Protection

CAL FIRE provides fire protection services for areas within the State Responsibility Areas (SRAs) as well as some local jurisdictions with which CAL FIRE maintains contracts to provide services. Although the Plan Area is not within an SRA, CAL FIRE currently provides fire response to the Plan Area through a contract with Placer County and provides mutual aid to the City of Lincoln. CAL FIRE assists local fire departments through mutual and automatic aid agreements to provide wildfire protection services for incidents occurring within their jurisdictions. CAL FIRE is responsible for the implementation of state-legislated fire safety standards and conducts fuel management activities and also performs annual inspections. By law, CAL FIRE policy requires that any uncontrolled fire that threatens to destroy life, property, or natural resources will be responded to and abated by CAL FIRE.

California Fire Code

The California Fire Code contains specialized regulations related to the construction, maintenance, and use of buildings in relation to fire and safety. The extent of the code coverage pertains to fire department access, fire hydrants, automatic sprinkler systems, fire alarm systems, fire and explosion hazards safety, hazardous materials storage and use, provisions to aid fire responders, industrial processes, and other fire-safety requirements for new and existing buildings.

California Occupational Safety and Health Administration

In accordance with CCR Title 8, Sections 1270 “Fire Prevention” and 6773 “Fire Protection and Fire Equipment,” The California Occupational Safety and Health Administration (Cal/OSHA) has established the minimum standards for fire suppression and emergency medical services. These standards include, but are not limited to, guidelines on the handling of highly combustible

materials, fire hose sizing requirements, restrictions on the use of compressed air and access roads, and the testing, maintenance, and use of all firefighting and emergency medical equipment.

Proposition 1A/Senate Bill 50 (Prop. 1A/SB 50)

Proposition 1A/SB 50 (Chapter 407, Statutes of 1998) is a school construction measure that authorizes the expenditure of state bonds totaling \$9.2 billion through 2002, primarily for modernization and rehabilitation of older school facilities and construction of new school facilities. \$2.5 billion is for higher education facilities and \$6.7 billion is for K-12 facilities.

Concerning the \$6.7 billion in funds allocated for K-12 schools, \$2.9 billion is for new construction, \$2.1 billion is for the modernization of older schools, \$1.0 billion is for districts in hardship situations, and \$700 million is for class size reduction. The new construction funds are available through a 50/50 state/local match program. The modernization funds are available through an 80/20 state/local match program.

Proposition 1A/SB 50 implemented significant fee reforms by amending the laws governing developer fees and school mitigation:

- It establishes the base (statutory) amount (indexed for inflation) of allowable developer fees at \$1.93 per square foot for residential construction and \$0.31 per square foot for commercial construction.
- It prohibits school districts, cities, and counties from imposing school impact mitigation fees or other requirements in excess of or in addition to those provided in the statute.

Proposition 1A/SB 50 prohibits local agencies from using the inadequacy of school facilities as a basis for denying or conditioning approvals of any “legislative or adjudicative act involving the planning, use, or development of real property.” (Government Code 65996(b).) In addition, a local agency cannot require participation in a Mello-Roos district for school facilities; however, the statutory fee is reduced by the amount of any voluntary participation in a Mello-Roos district.

Satisfaction of the Proposition 1A/SB 50 statutory requirements by a developer is deemed to be “full and complete mitigation.” The law identifies certain circumstances under which the statutory fee can be exceeded, including preparation and adoption of a “needs analysis,” eligibility for State funding, and satisfaction of two of four requirements (after January 1, 2000) identified in the law including year-round enrollment, general obligation bond measure on the ballot over the last four years that received 50 percent plus one of the votes cast, 20 percent of the classes in portable classrooms, or specified outstanding debt.

Assuming a district qualifies for exceeding the statutory fee, the law establishes ultimate fee caps of 50 percent of costs where the State makes a 50 percent match, or 100 percent of the costs where the State match is unavailable. School district certification of payment of the applicable fee is required before a city or county can issue a building permit for the construction of development.

Proposition 55

Proposition 55 is a school construction measure passed in 2004 authorizing the sale of approximately \$12.3 billion in bonds to fund qualified K-12 education facilities to relieve overcrowding and to repair older schools. Funds target areas of the greatest need and must be spent according to strict accountability measures. These bonds would be used only for eligible projects. Approximately \$10 billion would be allocated to K-12 schools while the remaining \$2.3 billion would be allocated to higher education facilities.

Department of Education Standards

The California Department of Education published the Guide to School Site Analysis and Development to establish a valid technique for determining acreage for new school development. Rather than assigning a strict student/acreage ratio, this guide provides flexible formulas that permit each district to tailor its ratios as necessary to accommodate its individual conditions. The Department of Education also recommends that a site utilization study be prepared for the site, based on these formulas.

Quimby Act

California Government Code Section 66477 et seq. is part of the Subdivision Map Act and referred to as the Quimby Act. The Act permits local jurisdictions to require the dedication of land and/or the payment of in-lieu fees solely for parks and recreation purposes. The required dedication and/or fees are based upon the residential density, parkland cost, and other factors. Land dedicated and fees collected pursuant to the Quimby Act may only be used for developing new, or rehabilitating existing, park or recreational facilities.

State Public Park Preservation Act

Under the Public Resource Code, cities and counties may not acquire any real property that is in use as a public park for any non-park use unless compensation or land, or both, are provided to replace the parkland acquired. This provides no net loss of parkland and facilities.

Local

City of Lincoln Municipal Code

Section 17.32.040 of the Lincoln Municipal Code, “Standards and formula for dedication of land,” establishes formulas for determining the amount of parkland required to be set aside as subdivisions are developed. Section 17.32.060 requires subdivisions over 50 lots to both dedicate land and pay a fee in lieu thereof.

Section 3.28.020, “Public facilities element reimbursement fee,” explains the process by which the PFE Fee is generated and imposed for annexations to the City of Lincoln. The City Council sets a resolution whereby a specific amount is defined as the PFE Fee, and details such as the benefit area on which the fee is imposed, the program and its projected cost, the payment timing,

and the relationship between the fee and annexation to which it is designated to apply are provided.

City of Lincoln General Plan

The following goals and policies from the 2050 General Plan are relevant to public services.

Goal LU-1 To grow in orderly pattern consistent with the economic, social, and environmental needs of Lincoln.

Policies

LU-1.11 **Natural Resource Conservation.** To promote a high quality of life within the community, the City will in conjunction with related policies in other general plan elements, promote the retention of natural open space areas, greenbelts and the provision of adequate parks as part of approving new land use designs.

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

Policies

LU-12.5 **Access to Creek and Wetland Edges.** Where feasible (and not a significant impact to the natural resources), the City shall encourage the provision of access to creeks, wetlands, and other open space areas to pedestrian and bicycle access.

LU-12.7 **Open Space Location.** When possible, the City shall locate open space and parks adjacent to creeks.

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

Policies

LU-15.4 **Village Land Use Design.** The City will look to the village areas as the primary locations within which to apply the Sacramento Area Council of Governments (SACOG) smart growth policies, which include the following:

- Provide a variety of transportation choices
- Offer housing choices and opportunities
- Take advantage of compact development
- Mixed land uses
- Preserve open space and natural beauty through natural resources conservation, and preserve farmland in the surrounding unincorporated areas through design measures designed to avoid land use conflicts
- Encourage distinctive, attractive communities with quality design

LU-15.15 **Joint Use of Detention Facilities.** Detention facilities can be utilized in meeting part of a village's park requirements based on the usability of the basin for recreational purposes.

LU-15.16 **Collocation with Schools.** The City shall promote the collocation of parks with school facilities for the purpose of enhancing available open space and recreation.

LU-15.17 **Parkland Distribution.** Parks within each village should be distributed proportionally to match the distribution of population within the village. Park sizes and location will typically be in keeping with serving the population within a walking distance of the park (1/4 mile). At least one

community park should be placed within walking distance (1/4 mile) of the Village Center Neighborhoods.

LU-15.18 **Trail and Open Space Connections.** Each village, and the neighborhoods they contain, shall include trails, bikeways, and open spaces as an integral design component. These facilities shall create a network that links every neighborhood to each other and provide a convenient path to the Village Center.

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

Policies

PFS-1.1 **Maintain Adequate Public Services.** The City shall ensure the provision of adequate public services and facilities to the existing areas of the city and to ensure that new development is served by a full range of public services.

PFS-1.2 **Annexation Requirements.** The City shall require that prior to any annexations to the City a detailed public facilities and financing plan be completed that considers both capital facilities and the fiscal impacts to the City's ongoing operation and maintenance costs.

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

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

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

Policies

PFS-8.1 **Fire Loss and Damage.** The City shall work to minimize fire loss and damage within the city.

PFS-8.2 **Fire Protection.** The City shall expand fire protection services as needed to meet fire response times.

PFS-8.3 **Public Awareness of Fire and Emergency Procedures.** The City shall promote public awareness of fire and emergency procedures by developing new and expanding existing public fire safety and emergency life support education programs.

PFS-8.4 **Fire Response Times.** The City shall strive to maintain a firefighting capability sufficient to maintain a fire response time of five (5) minutes or less as a general guideline for service provision and locating new fire stations.

PFS-8.5 **Provision of Fire Station Facilities and Equipment.** The City shall provide fire station facilities, equipment (engines and other apparatus), and staffing necessary to maintain the City's service standards (ISO rating and response time).

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

PFS-8.8 **Police Protection.** The City shall expand police protection service consistent with community needs and provide an adequate level of service.

- PFS-8.9 **Building Design and Security.** The City shall continue to promote the use of site planning and building design as a means to decrease crime.
- PFS-8.11 **Provisions of Police Facilities.** For purposes of defining capital facilities investment for police facilities, the City shall base facility needs on a staffing ratio of 1.8 officers per 1,000 population.
- PFS-8.12 **Neighborhood Watch.** The City shall promote the establishment of citizen participation in safety programs, such as Neighborhood Watch and Citizens on Patrol programs.
- PFS-8.13 **Security Along Waterway and Trail.** The City shall implement a variety of public safety measures to address crime-related issues along City-owned trail areas. Public safety measures shall include, but not be limited to, active policing using pedestrian, bicycling, or equestrian patrols. Emergency call boxes or solar-powered telephones shall also be placed in appropriate places along trail corridors to provide prompt access to emergency services.
- PFS-8.14 **Police Response Time.** The City shall strive to maintain an average response time of five minutes or less for priority one calls.
- Goal PFS-9 To ensure that adequate community facilities are provided and are conveniently located in order to meet the needs of residents of the city.**

Policies

- PFS-9.1 **Adequate School Facilities.** The City shall ensure that in areas of new development, school facilities meeting adopted school district standards will be available.
- PFS-9.2 **Development of New Schools.** The City shall coordinate planning, siting, and construction of new schools with the appropriate school district to ensure that facilities are constructed.
- PFS-9.3 **Expand Library.** The City shall continue to expand library services, according to adopted City library standards (0.7 square feet per capita), to meet the educational, informational, and cultural needs of all community residents.
- PFS-9.4 **Funding Mechanism for Libraries.** The City shall provide a funding mechanism for the construction and operation of libraries within the city.
- PFS-9.5 **Siting of Libraries.** The City shall locate libraries near or adjacent to other City facilities, such as schools and parks, wherever possible.
- PFS-9.6 **Community Facilities.** The City shall ensure that community facilities, including a senior / adult services center, gymnasiums, aquatic center, and library, be planned and provided for future residents of the city.
- PFS-9.7 **Developer Fees for School Districts.** The City shall coordinate with the school district that adequate developer fees are collected in accordance with state law.
- PFS-9.8 **Collocation of Schools and Recreational Facilities.** The City shall coordinate with the Western Placer Unified School District to encourage the joint siting of schools with parks and community centers.
- PFS-9.9 **School Funding.** To the extent allowed by State law, the City will require new projects to mitigate impacts on school facilities, which could occur through a combination of new school site dedications and the use of developer fees. The City will also work with school districts, developers, and the public to evaluate alternatives to funding / providing adequate school facilities.
- Goal OSC-7 To provide and maintain park facilities that provide recreational opportunities for all residents.**

Policies

OSC-7.1 **Park Facilities.** The City shall provide park facilities in accordance with following adopted park standards:

Parks	Standard
Parks without Development Agreements	5 acres/1,000 residents
Parks with Development Agreements	9 acres/1,000 residents
City-wide Park	3 acres/1,000 residents
Neighborhood/Community Park	3 acres/1,000 residents
Open Space	3 acres/1,000 residents

Note: 9 acres consist of 6 acres for active recreation and 3 acres for passive recreation. Please see Appendix B of the 2050 General Plan for additional information on park requirements.

OSC-7.2 **Recreational Needs.** The City shall provide recreation facilities and programs that meet the needs of all its citizens. Facilities shall be developed in compliance with all applicable regulations designed to address public safety and environmental impacts that may result through the construction, operation, and maintenance of these facilities.

OSC-7.3 **Volunteer Organizations.** The City shall support and cooperate with volunteer groups and organizations that provide recreation activities to young people.

OSC-7.4 **Maintenance of Recreational Facilities.** The City shall support the continued maintenance and improvement of existing recreational facilities.

OSC-7.5 **Funding for Recreational Areas and Facilities.** The City shall strive to make adequate funding available to improve and maintain existing parks as well as construct new facilities.

OSC-7.6 **Dedication of Park Land.** The City will continue to collect park dedication fees, require the dedication of parkland, or a combination of both as a condition of development approval for the provision of new parks, or the rehabilitation of existing parks and recreational facilities in order to meet the City’s parkland standards in Policy 7.1.

OSC-7.7 **In-Lieu Fees.** The City shall provide for the payment of an in-lieu fee, in those instances where the City determines that park land dedication is not appropriate. The in-lieu fee shall reflect the cost of fully serviced vacant land.

OSC-7.8 **Adopted Park Standards.** The amount and location of any future parkland to be developed within the city will be determined by adopted park standards and location guidelines.

The City shall strive to provide the following recreational facilities:

- One multipurpose center per 10,000 population with the structural square footage to be determined by the City Council based on the evaluation of community needs.
- One 50 meter swimming pool per 10,000 population based upon a determination of the City Council of community needs.
- One mile of pedestrian/bicycle trails per 2,500 population.

OSC-7.9 **Recreational Needs Surveys.** The City shall conduct surveys on a periodic basis to determine specific recreation needs of all age groups, the physically and mentally challenged, and special interest groups.

OSC-7.10 **Park User Fees.** The City will continue to collect park user fees for the maintenance of existing park and recreation facilities.

- OSC-7.11 **Capital Improvement Program.** The City will continue to include park and recreation improvement and maintenance projects in its capital improvement programming.
- OSC-7.12 **Recreational Equipment.** The City will continue to provide equipment, such as picnic tables, benches, trash cans and drinking fountains, in city parks, and will adequately maintain or replace such equipment when necessary.
- OSC-7.13 **Revitalization Program.** The City will continue its long term revitalization program to beautify and upgrade all city parks.
- OSC-7.14 **Lighting and Landscape District.** The City will continue to use the lighting and landscape district to develop and maintain parks.
- OSC-7.15 **Maintain Wildlife Habitat Values.** The City shall maintain wildlife habitat values during design and ongoing maintenance of new park facilities through provision of open space and wildlife corridor areas, protection of native vegetation, and control of use of herbicides and pesticides.
- OSC-7.16 **Linear Parks and Trail Systems.** The City shall develop linear parks and trail systems along the City's creeks and wetlands, when such improvements are not prohibited by federal and state regulations.
- OSC-7.17 **Capital Improvement Fees.** The City will collect a capital facilities fee on new development to generate funding to construct park and recreation improvements in accordance with the requirements set forth in the City's adopted standards.
- OSC-7.18 **Park Construction.** The City will strive to have newly dedicated, mini and neighborhood parks, constructed by residential developers in conjunction with their project, such that new residents have immediate access to park facilities.
- OSC-7.19 **Pocket Parks.** As part of its urban design concept, the City will utilize the pocket park (approximately 0.25 to 0.50 acre) to establish a passive recreational and social gathering area in neighborhoods where it is deemed appropriate. Such parks are non-credited facilities toward parkland dedication requirements.
- OSC-7.20 **Design of Waterway and Trail Corridors.** The City shall design waterway and trail corridors to meet the recreational needs of the community, while maximizing public safety and access concerns. This includes locating trail corridors to ensure visibility along public roadways, where appropriate.
- OSC-7.21 **Maintenance of Waterway and Trail Corridors.** The City shall ensure that existing park maintenance activities incorporate applicable trail maintenance activities necessary to address public safety issues along City-owned trail areas. Trail maintenance activities shall be conducted in a manner consistent with all applicable environmental regulations and shall ensure emergency vehicle access along portions of the trail corridor where appropriate. Trail maintenance measures shall include, but not be limited to, vegetation or brush clearing and signage prohibiting inappropriate uses.
- Goal HS-9 To ensure the maintenance of the Emergency Response Plan in order to maintain its effectiveness in preparing and responding to a natural or human-made disaster.**

Policies

- HS-9.1 **Jobs-Housing Balance.** The City shall continue to update and ensure that the Emergency Response Plan meets current federal, State, and local emergency requirements.
- HS-9.2 **Coordinate Emergency Response Services with Local Agencies.** The City shall continue to coordinate emergency response services with Placer County, other cities within Placer County, special districts, service agencies, voluntary organizations, and state and federal agencies.

- HS-9.3 **Educate Public on Emergency Response.** The City shall conduct training programs for staff in disaster preparedness.
- HS-9.4 **Coordinate with Placer County.** The City will strive to work with other local agencies including Placer County and cities within the County to develop coordinated geographical information systems (GIS) planning for emergency response services.
- HS-9.5 **Siting of Critical Emergency Responses.** The City shall ensure that the siting of critical emergency response facilities such as hospitals, fire stations, police offices, substations, emergency operations centers and other emergency service facilities and utilities have minimal exposure to flooding, seismic and geological effects, fire, and explosions.
- Goal HE-2 Conserve and improve the existing housing stock and residential neighborhoods.**

Policies

- Policy 6 Ensure that neighborhoods have adequate public services and facilities that comply with City standards.

The relationship of these 2050 General Plan policies to the V5SP is included in Chapter 5, General Plan Consistency.

3.14.3 Analysis, Impacts, and Mitigation

Methodology

The assessment of public services and safety impacts is a combination of qualitative and quantitative review of the existing conditions applicable to the proposed project and a determination of whether the proposed project includes adequate provisions to address the potential impacts associated with local public services and safety related conditions.

The analysis relating to police, fire, and schools impacts is derived from the 2012 Nexus Study Update.

Regarding parks and recreation, the City of Lincoln has adopted a Municipal Code Ordinance (17.32.040) that sets the following population generation rates for determining the amount of required parkland: However, the Lincoln Municipal Code is out of date and the parkland dedication formula table cited in Section 17.32.040 overstates the persons per household numbers for low, medium and high density residential uses. In place of the outdated persons per household numbers cited in Municipal Code Section 17.32.040, the following persons per household numbers will be used for the analysis:³⁵

- Low Density Residential:-2.86 persons per household (PPH)
- Medium Density Residential: 2.00 PPH
- High Density Residential: 1.80 PPH

³⁵ Campbell, Rodney, Director, City of Lincoln Community Development Department, electronic communication to Andrea Mayer, May 14, 2014.

These factors were used to calculate the number of residents for purposes of estimating parkland demand. Since the proposed project would require a Development Agreement, the 2050 General Plan requires nine acres of parkland per 1,000 residents (Policy OSC-7.1), consisting of a minimum combination of three acres per 1,000 residents for city-wide parks, three acres per 1,000 residents for neighborhood/community parks, and three acres per 1,000 residents for open space. Partial credit (toward the 2050 General Plan park requirement) is granted to open space areas and linear parkways as these areas provide pedestrian and bicycle trail systems, informal recreation facilities, and open space amenities. The General Plan credits each acre of open space as 0.10-acre of parkland. The City grants parkland credits based on a review of open space areas and a determination as to how much credit the area in question qualifies for.

Significance Criteria

The significance criteria for this analysis were developed from criteria presented in Appendix G, “Environmental Checklist Form,” of the CEQA Guidelines and based on the professional judgment of the City of Lincoln and its consultants. The proposed project would result in a significant impact if it would:

- Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:
 - Fire protection;
 - Police protection;
 - Schools;
 - Parks; and
 - Libraries.

Impacts and Mitigation Measures

Impact 3.14-1: The proposed project would not result in substantial adverse physical impacts associated with the provision of new or physically altered police facilities or the need for new or physically altered police facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for police services.

Full Specific Plan and Area A

The Plan Area is largely undeveloped, so it requires few law enforcement services at present. The proposed project would increase the need for law enforcement by increasing the population within the Plan Area, and by introducing a substantial amount of new residential and commercial development into a relatively undeveloped area. Upon annexation, additional LPD staff time and equipment could be needed to patrol the Plan Area and respond to emergency calls. As discussed in the setting, LPD has been subject to budget cuts and minimized staff numbers in recent years

due to the economic downturn. Over time, as the economy improves, the LPD will likely see its funding increased and staffing levels returned to historic levels.

This analysis assumes the 2012 PFE ratios for personnel and facility space requirements at full buildout as follows: 1.87 officers and 0.4 non-sworn staff per 1,000 residents and 475 square feet per police department employee. Based on the PFFP factors, the proposed project at full buildout would generate the demand for up to 36.37 new officers and 7.78 new staff persons, as well as 20,971 square feet of office space for the LPD (see **Table 3.14-2**). The first phase of the proposed project - Area A - would increase the demand for police protection through the addition of 799 acres to the LPD service area, as well as increasing the population by approximately 5,138 people. In accordance with the PFE ratio, Area A would generate a demand for 9.61 new officers and 2.06 new staff people, as well as approximately 5,543 square feet of additional LPD office space (see Table 3.14-2).

**TABLE 3.14-2.
POLICE PROTECTION REQUIREMENTS**

	Project Population	Officers/1,000 residents	Officers	Staff/1,000 residents	Staff	Square Footage/ Employee	Square Footage
Full Buildout	19,449	1.87	36.37	0.40	7.78	475	20,971
Area A	5,138	1.87	9.61	0.40	2.06	475	5,543

SOURCE: City of Lincoln, 2016. Lincoln Village 5 Specific Plan. August 12, 2016.

The 2050 General Plan expresses a specific need for a centralized police station in Policy PFS-8.11: Provisions of Police Facilities. The existing central police station for LPD, located at 770 7th Street, is approximately 16,000 square feet in size, and would not be the sufficient size to meet the requirements of the full buildout of the specific plan. However, the proposed project would include development of a temporary police station that would supplement the existing facility. The LPD identified the potential need for a new central police station and Public Safety Center in a location in close proximity to SR 65 and the Nelson Lane interchange. Village Commercial (VCOMM) and Village Office/Commercial (VOC) zoned parcels on Nelson Lane could accommodate the Police and Public Safety Center, if determined by the City to meet the siting criteria. Although the ultimate location of the police station within the Plan Area is not yet determined, an interim police station within Area A would provide the LPD with sufficient facilities to provide police protection services to the Plan Area. All environmental impacts related to the construction of this facility are included in the relevant technical sections of this EIR. This would be a **less-than-significant** impact.

Mitigation Measure

None required.

Impact 3.14-2: The proposed project could result in substantial adverse physical impacts associated with the provision of new or physically altered fire protection facilities or the need for new or physically altered fire protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for fire services.

Full Specific Plan

The proposed project would result in the expansion of LFD's service area by approximately 4,787 acres because CAL FIRE and PCFD would no longer be the primary responders once the Plan Area is annexed to the City of Lincoln. The project would also increase the population living within the Plan Area, resulting in more emergency response calls. As indicated in **Table 3.14-3**, the proposed project would generate the need for approximately 25 new staff and 22,476 square feet of station space.

**TABLE 3.14-3.
FIRE PROTECTION REQUIREMENTS**

	Project Population	LFD Staff/1,000	LFD Staff	Square Footage/Staff	Square Footage
Full Buildout	19,449	1.26	24.51	917	22,476
Area A	5,138	1.26	6.47	917	5,937

SOURCE: City of Lincoln. 2015. Lincoln Village 5 Specific Plan. March 23.

The eastern portion of the Plan Area is located approximately 0.5 air miles from Station 34, two air miles from Station 33, and three air miles from Station 35, although roadway mileage to the Plan Area from these stations is longer due to indirect roadway connections. Access would improve with the construction of project streets, which would transect the Plan Area. Although the existing Fire Station 34 is very close geographically to the Plan Area, the circuitous route of travel from all existing fire stations to the Plan Area results in a response time that falls below the City's goal of five minutes for 80 percent of all calls.³⁶

Newly occupied areas within the Plan Area could be exposed to the risk of wildfires in adjacent grasslands and agricultural fields until the Plan Area is fully developed. The risk would be minimized by property setbacks, irrigated landscaping and the use of fire-retardant materials in new buildings, consistent with current building codes. If wildfires did occur, they would be suppressed by CAL FIRE for fires in unincorporated portions of Placer County, or LFD for fires within the City limits. As a result of these actions, future Plan Area residents would not be at substantial risk of wildfire.

³⁶ Davis, Mike, Fire Chief, City of Lincoln Fire Department, electronic communication to Jim Bermudez, August 19, 2014.

As discussed in the environmental setting, LFD has been subject to budget cuts in recent years due to the economic downturn. Over time, as the economy improves, LFD would likely see its funding increased and staffing levels returned to historic levels. Funding for fire operations and services is derived from the City's General Fund, which is based primarily on property tax and sales tax revenues. As development of the proposed project is implemented there would be an increase in these revenues, which could be used to fund additional fire operations. To address the project's proportionate share of fire facilities that have already been constructed and that would serve the Plan Area, the proposed project would pay fees into a community facilities district (CFD) to provide fire protection services to the Plan Area.

However, to adequately provide fire protection services to the Plan Area and house additional personnel, two new fire stations would be required to be constructed. The PQP site located within the Plan Area at the intersection of Nelson Lane and Rachel Avenue (in Area A) has been identified as an appropriate location for a new fire station. As part of the V5SP, the applicant would coordinate with the City Fire Department to determine the size and scope of the fire station to be built prior to issuance of the first building permit. All environmental impacts related to the construction of this facility are included in the relevant technical sections of this EIR. Therefore, the construction impacts of a new fire station would be **less than significant**.

Area A

According to the Specific Plan, Area A would increase the demand for fire protection through the addition of 799 acres to the LFD service area, as well as increasing the population by approximately 5,138 people. This would result in additional emergency calls and the need for between six and seven new firefighters or other staff and 5,937 square feet of new facility space (see Table 3.14-3). As mentioned earlier, Fire Station 34 is located approximately 1.5 miles to the east of Area A, and as Area A develops, the addition of streets within Area A would provide better access for emergency vehicles. Although the existing Fire Station 34 is very close geographically to Area A, the circuitous route of travel from the fire station to Area A currently results in a response time that falls below the City's goal. However, the PQP site located within the Plan Area at the intersection of Nelson Lane and Rachel Avenue (in Area A) has been identified as an appropriate location for a new fire station. As part of the V5SP, the applicant would coordinate with the City Fire Department to determine the size and scope of the fire station to be built prior to issuance of the first building permit. All environmental impacts related to the construction of this facility are included in the relevant technical sections of this EIR. Therefore, the construction impacts of a new fire station would be **less than significant**.

Mitigation Measure

None required.

Impact 3.14-3: The proposed project would result in substantial adverse physical impacts associated with the provision of new or physically altered school facilities or the need for new or physically altered school facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable performance objectives for schools.

Full Specific Plan

The proposed project is located within the service boundaries of WPUSD, which operates several public schools within and around Lincoln, including seven elementary schools, two middle schools, and one comprehensive high school. In addition, the WPUSD operates one continuation high school and a 280-acre school farm (this farm is entirely located within the Plan Area and has been incorporated into the specific plan). Based on the proposed project's maximum development potential of 8,206 new dwelling units, it is estimated that buildout of the proposed project could generate up to 2,695 elementary school students, 643 middle school students, and 928 high school students (see **Table 3.14-4**). Three elementary schools (each approximately 12 acres in size), one 20-acre middle school, and one 49-acre high school are proposed to be built to serve the proposed project's needs. In addition, the middle school and high school would also serve students living outside of the Plan Area. **Table 3.14-5** presents the school site demands within WPUSD. Notably, the proposed schools would be located mainly in the center of the western half of the Plan Area to ensure they are constructed in the Airport Land Use Compatibility Zone D, as required by the applicable Airport Land Use Compatibility Plan, and to ensure they are within one-half mile of the VMDR and VHDR land uses.

Buildout of the proposed project would occur over 15 to 20 years. As development occurs within the Plan Area, the WPUSD would address the associated enrollment by accommodating students at schools with existing capacity, using temporary classrooms, adding classrooms to existing campuses until new schools are constructed. A few Notice of Preparation comment letters (see Appendix A) expressed concern about whether school enrollment needs would be met and whether the resources would be sufficiently allocated for WPUSD to assume responsibilities. The timing of the development of the schools, along with the proposed project as a whole, would be largely driven by market forces. Thus, the need and timing of new school facilities would depend on demand, funding and the WPUSD planning processes. If needed, the school site could be developed early or in advance of other development in the surrounding area.

The project applicant and/or developer(s) would be required to contribute fees towards school facilities funding, and would enter into a Mitigation Agreement with the WPUSD. Funding for new school construction is provided through state and local revenue sources. Due to the passage of Proposition 1A in November 1998, SB 50 (Chapter 407, Statutes of 1998) was enacted to change the way in which school districts can levy developer fees. SB 50 has resulted in full state preemption of school mitigation, and provides three levels of fees. Level I fees are a fee based per square foot of development (\$1.93 per square foot), Level II fees are residential fees that may be applied at a higher rate than Level I fees, and Level III fees are fees that are only applicable in the event that the State no longer maintains bond funds after 2006. In this scenario, Level III fees would enable school districts to impose 100 percent of the school facility cost apart from any

**TABLE 3.14-4.
PROBABLE STUDENT GENERATION**

Type of School	Single Family Units ^{1,2}	Single Family Generation Rate (students/dwelling unit)	Single Family Student Generation	Multi Family Units ³	Multi Family Generation Rate (students/dwelling unit)	Multi Family Student Generation	Total Students Generated
Full Specific Plan							
Elementary (K-5)	5,709	0.373	2,129	1,497	0.378	566	2,695
Middle (6-8)	5,709	0.089	508	1,497	0.090	135	643
High (9-12)	5,709	0.118	674	1,497	0.170	254	928
Total	--	--	3,311	--	--	955	4,266
Area A							
Elementary (K-5)	1,221	0.373	455	0	0.378	0	455
Middle (6-8)	1,221	0.089	109	0	0.090	0	109
High (9-12)	1,221	0.118	144	0	0.170	0	144
Total	--	--	708	--	--	0	708

NOTES:

1. Includes units designated on the Land Use Plan as RR, CE, LDR, or MDR.
2. 1,000 units have been deducted from the LDR and MDR categories for age-qualified units. The age-qualified units are all located in Area A.
3. Includes units designated on the Land Use Plan as HDR or VMU. Area A has no multi-family units (HDR or VMU uses).

Sources:

City of Lincoln. 2015. Lincoln Village 5 Specific Plan. March 23.

Single Family and Multi Family Generation Rates: Heather Steer, Facilities Coordinator, Western Placer Unified School District, electronic communication, October 2014; ESA 2014.

**TABLE 3.14-5.
SCHOOL SITE DEMANDS**

	Elementary (K-5)	Middle (6-8)	High (9-12)
Full Specific Plan			
Students Generated	2,695	643	928
School Capacity (Average)	650	1,200	2,000
School Capacity (Maximum)	800	1,400	2,500
Number of Schools Required	4	1	1
Area A			
Students Generated	455	109	144
School Capacity (Average)	650	1,200	2,000
School Capacity (Maximum)	800	1,400	2,500
Number of Schools Required	1	1	1

NOTES:

1. Average capacity refers to the number of students WPUSD targets for planning and designing new school facilities.
2. Maximum capacity refers to the ultimate maximum amount of students WPUSD would put on a campus while the District opens a new school site.

SOURCES: Heather Steer, Facilities Coordinator, Western Placer Unified School District, electronic communication, October 2014; ESA 2014.

dedicated local school monies. SB 50 allows WPUSD to collect a fee that is equal to the current statutory Level I fees. Where justified, SB 50 allows the district to collect additional fees in an amount that would approximate 50 percent of the cost of additional facilities. The collection of the 50 percent mitigation fees is with the assumption that the State School Facility funding program remains intact and that state funds are still available for partial funding of new school facilities. If the funds are not available, districts may collect up to 100 percent mitigation fees under certain circumstances. Although school impact fees might not be sufficient to fund 100 percent of new school facility construction and operation, the California State Legislature has declared the school impact fee to be full and adequate mitigation pursuant to Government Code Section 65995.

In summary, the proposed project would be required to pay the applicable school fees, which is considered full mitigation of residential development impacts on schools. The development of the school sites has been discussed in other chapters of this EIR. Therefore, the impact related to school services and facilities would be considered **less than significant**.

Area A

As seen in Tables 3.14-4 and 3.14-5, Area A would generate a total of approximately 708 students, consisting of 455 elementary school students, 109 middle school students, and 144 high school students. As seen in Table 3.14-1, the existing Glen Edwards Middle School and Lincoln High School would have enough capacity to accommodate these additional students, while the existing Creekside Oaks Elementary School would not quite have enough capacity to accommodate all 455 projected elementary school students generated in Area A. The elementary school could accommodate approximately 256 elementary school students, which would leave 199 students in need of an elementary school. However, Area A would have an elementary school built on site, which would have the capacity to accommodate these remaining students. The specific impacts of developing schools in Area A could include physical impacts such as increased traffic and parking, noise, and evening lighting. Each of these school-specific impacts has been discussed in other chapters of this EIR (i.e., Transportation, Noise, and Aesthetics). Further, as development occurs at Area A, WPUSD would address enrollment needs by placing students at schools with available capacity, using temporary classrooms if needed on school sites, or construct new schools. The proposed project would also be required to pay the school impact fees, which as provided in Section 65996 of the California Government Code, is deemed to fully mitigate the impacts of new development on school services. As a result, there would be a **less-than-significant** impact on school facilities.

Mitigation Measure

None required.

Impact 3.14-4: The proposed project could result in substantial adverse physical impacts associated with the provision of new or physically altered parks or recreation facilities or the need for new or physically altered parks or recreation facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable performance objectives for parks and recreation services.

Full Specific Plan and Area A

The proposed project would result in a demand of 175 acres of parkland and open space (116.7 acres for active parkland and 58.3 acres for open space), as shown in **Table 3.14-6**.

**TABLE 3.14-6.
PARK AND OPEN SPACE GENERATION**

Residential Density	Dwelling Units	Persons per Household (PPH)	Generated Population	Active Recreation Requirement in acres (6 acres/1,000 Residents)	Open Space/ Passive Recreation Requirement in acres (3 acres/ 1,000 Residents)	Total Parkland Required in acres (9 acres/ 1,000 Residents)
Full Specific Plan						
Low ¹	3,879	2.86	11,094	--	--	--
Medium ²	2,830	2.00	5,660	--	--	--
High ³	1,497	1.80	2,695	--	--	--
Buildout Total	8,206	--	19,449	116.7	58.3	175
Area A						
Low ¹	809	2.86	2,314	--	--	--
Medium ²	1,412	2.00	2,824	--	--	--
High ³	0	1.80	0	--	--	--
Area A Total	2,221	--	5,138	30.8	15.4	46.2

NOTES:

1. "Low" density is comprised of Residential Rural, Country Estate, and Residential Low Density uses.
2. "Medium" density is comprised of just Residential Medium Density uses.
3. "High" density is comprised of Residential High Density and Village Mixed Use uses. There are no "High" density uses in Area A.

SOURCE: City of Lincoln. 2015. Lincoln Village 5 Specific Plan. August 7.

The proposed project would provide for a variety of parks, recreational facilities and open space (see Figure 2-7 in Chapter 2, Project Description). A total of approximately 149.2 acres would be dedicated to new active parkland and recreational uses, including an approximately 71.2 acre Regional Sports Park (with only 61.2 acres counting toward parkland credit as a 20-acre portion of the Regional Park would be counted at 50 percent because the park would be partially under private ownership), 35 acres of community parks, and 43 acres of neighborhood parks. As a result of 10 acres of the Regional Sports Park being under private ownership, only 139.2 acres of active parkland total would be applicable toward meeting the City's parkland dedication requirements. However, the City and Developer have not yet determined the scope of the public use of the Regional Sports Park. As a result, this impact conservatively assumes that the worst case scenario

that the applicant would not receive at least 38.7 acres of credit for active park in the Regional Sports Park, as is discussed below.

Recreational facilities within the community and neighborhood parks would include ball fields, basketball courts, playground equipment, picnic and barbeque facilities, some trailheads and pedestrian facilities, and other park amenities. The Regional Sports Park would be approximately 71.2 acres and contain 12 soccer fields. These fields would be utilized by the community within Lincoln and also other communities in the surrounding region and this park is anticipated to host high-profile soccer tournaments and other revenue-producing events. Along with the fields, the additional planned facilities at the Regional Sports Park would include other training fields, a fieldhouse containing locker rooms, a civic plaza, café/snack shack, restrooms, a picnic area, a playground, and on-site parking areas. The proposed project would also provide for linear features that would include pathways to connect with the trail system throughout the Plan Area. One major linear parkway would connect the Regional Sports Park with the community park along Auburn Ravine, and other smaller trail corridors, greenbelts and linear parkways would be constructed on smaller scales.

A total of approximately 1,402.7 acres would provide varying open space preserve uses; 343.5 acres would be designated as Agricultural Preserve, 841.1 acres would be designated as Open Space Preserve, and 218.1 acres would be designated Natural Open Space. The Agricultural Preserve designation features the entirety of the Lincoln High School Farm, which alone comprises 280 acres. The Natural Open Space designation includes portions of Markham Ravine and Auburn Ravine, along with adjacent riparian areas and other drainages that traverse the Plan Area.

As shown in **Table 3.14-7**, the proposed project could receive credit for 283.4 acres of required active recreational parkland and 1,402.7 acres of open space, which would far exceed the projected demands of 116.7 acres of parkland and 58.3 acres of open space, respectively. See Table 3.14-6 for the projected parkland demands for full buildout.

Thus, the proposed project would have a **less than significant impact** on open space or passive park areas. However, if less than 38.7 acres of the Regional Sports Park would be available for public use (depending on the MOU and/or development agreement between the City and applicant), fewer acres would be available to meet the City's parkland dedication requirement. While the proposed project includes 35 acres of community parks and 43 acres of neighborhood parks, as well as 61.2 acres of Regional Sports Park, without receiving credit for 61.2 acres the Regional Sports Park, the proposed project would contribute only 78 acres of active recreational park. Thus, the proposed project would be short of the 116.7-acre demand for active recreational park by 38.7 acres. Because a final agreement has not been reached on how many acres of active park will be credited for the Regional Sports Park, the proposed project could have a **potentially significant impact**.

**TABLE 3.14-7.
PARK AND OPEN SPACE PROVISION AND CREDITS**

V5SP Parks	City of Lincoln Parkland Designations	Gross Acreage	Credit Ratio	Credited Acreage
Area A				
Parks				
Regional Sports Park	Citywide (Regional) Park -- 25-100 acres	71.2	1:1	61.2 ¹
Community/Village Parks	Community Park -- 5-25 acres	16.0	1:1	16.0
Neighborhood Parks	Neighborhood Park -- 5-8 acres	13.8	1:1	13.8
Subtotal Parks		101.0	1:1	91.0
Linear Corridors/Paseos		14.0	0.2:1	2.8
Ag/Preserve Open Space		0.0	0.1:1	0.0
Preserve Open Space		124.8	0.1:1	12.5
Natural Open Space		17.3	0.1:1	1.7
Area A Total		257.1	--	108.0
Areas B-J				
Parks				
Regional Sports Park	Citywide (Regional) Park -- 25-100 acres	0.0	1:1	0.0
Community/Village Parks	Community Park -- 5-25 acres	19.0	1:1	19.0
Neighborhood Parks	Neighborhood Park -- 5-8 acres	29.2	1:1	29.2
Subtotal Parks		48.2	1:1	48.2
Linear Corridors/Paseos		5.5	0.2:1	1.1
Ag/Preserve Open Space		343.5	0.1:1	34.4
Preserve Open Space		716.3	0.1:1	71.6
Natural Open Space		200.8	0.1:1	20.1
Areas B-J Total		1,314.3	--	175.4
Full Specific Plan				
Parks				
Regional Sports Park	Citywide (Regional) Park -- 25-100 acres	71.2	1:1	61.2 ¹
Community/Village Parks	Community Park -- 5-25 acres	35.0	1:1	35.0
Neighborhood Parks	Neighborhood Park -- 5-8 acres	43.0	1:1	43.0
Subtotal Parks		149.2	1:1	139.2
Linear Corridors/Paseos		19.5	0.2:1	3.9
Ag/Preserve Open Space		343.5	0.1:1	34.4
Preserve Open Space		841.1	0.1:1	84.1
Natural Open Space		218.1	0.1:1	21.8
Buildout Total		1,571.4	--	283.4

NOTES:

1. Project applicant receives 1:1 credit for parkland provided with the exception of one 20-acre parcel within the Regional Park which receives 0.5:1 credit, resulting in 10 acres of credited parkland instead of 20 acres.

SOURCES: City of Lincoln. 2015. Lincoln Village 5 Specific Plan. August 7; ESA, 2015.

The physical impacts of the construction and operations of the parks and open space included in the Specific Plan are analyzed in the appropriate technical sections of this Draft EIR (Section 3.3, Air Quality, discusses air quality impacts, for example). Additionally, the proposed project is being constructed where no current parks or recreational facilities exist, and as such, no parks would deteriorate or become overused. As a result, the proposed project would result in **no impacts** to existing park facilities.

Mitigation Measure

Mitigation Measure 3.14-4 (Full Specific Plan and Area A)

If fewer than 38.7 acres of the Regional Sports Park are available for public use, the project applicant shall either (i) provide the required additional active recreational park land; or (ii) pay the In Lieu Fee for park and recreational facilities as set forth in Lincoln Municipal Code section 17.32.010 for the difference between the demand for active recreational park (116.7 acres) and the active recreational parkland provided.

Impact Significance After Mitigation: The In Lieu fee for park and recreational facilities would fund the acquisition of park land. Therefore, the payment of the In Lieu Fee for the difference between the demand for active recreational park (116.7 acres) and the active recreational parkland provided by the proposed project would allow the City to acquire parkland to make up any potential shortfall in parkland. If the proposed project would result in a shortfall in parkland, the payment of the In Lieu fee would reduce this impact to **less than significant**.

Impact 3.14-5: The proposed project could result in substantial adverse physical impacts associated with the provision of new or physically altered library facilities or the need for new or physically altered library facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios for libraries.

Full Specific Plan

Implementation of the proposed project would increase the overall demand on library services within the City, as indicated in **Table 3.14-8**. In accordance with Policy PFS-9.3 of the 2050 General Plan, a 0.7 square foot per capita factor is applied on the population to determine the required library space for the City of Lincoln. The population of the full Specific Plan is expected to be 19,449 people. A total of 13,614.3 square feet of library space would be required for the full buildout of the V5SP. The existing City library is 43,000 square feet and provides services to the entire city population. The current population of Lincoln is 45,206,³⁷ and the current library is 43,000 square feet in size. Using the 0.7 square foot per capita factor, only 31,644.2 square feet are currently required to serve the Lincoln population. As the proposed project builds out,

³⁷ California Department of Finance, 2014. E-5 Population and Housing Estimates for Cities, Counties, and the State, 2011-2014, with 2010 Census Benchmark. April 2014.

residents in the proposed project area could use the existing library as there is remaining capacity. However, when the proposed project's population reaches approximately 16,000 residents, new library facilities would be needed.

**TABLE 3.14-8.
LIBRARY GENERATION**

Residential Density	Dwelling Units	Persons per Household (PPH)	Generated Population	Library Generation Rate (0.7 ft ² per capita)	Total (ft ²)
Area A					
Low	809	2.86	2,313	0.7	1,619.6
Medium	1,412	2.00	2,824	0.7	1,976.8
High	0	1.80	0	0.7	0
Area A Total	2,221	--	5,137	--	3,596.4
Full Specific Plan					
Low	3,879	2.86	11,094	0.7	7,765.8
Medium	2,830	2.00	5,660	0.7	3,962.0
High	1,497	1.80	2,695	0.7	1,886.2
Buildout Total	8,206	--	19,449	--	13,614.0

SOURCES:

1. Population City of Lincoln. 2015. Lincoln Village 5 Specific Plan. August 7, 2015.
2. City of Lincoln, 2008. City of Lincoln 2050 General Plan. Adopted March 25, 2008.

The proposed project would be required to contribute its appropriate share of PFE Fees to fund the expansion of library services and facilities. These fees would be used by the City to evaluate library needs and plan and construct new facilities. Future projects would be reviewed by the City on an individual basis and would be required to comply with requirements (i.e., PFE fees, etc.) in effect at the time building permits are issued. The City is updating its PFE Fee structure, including how and when fees are collected for library construction, staffing, and equipment. Key details about how and where the City would increase library space to meet the growing needs of the City, including new residents of the Plan Area, are unknown and purely speculative. If library facilities are constructed within Village 5, the impacts of constructing and operating those facilities would be the same as the impacts of urban development analyzed throughout this EIR. If library

facilities are constructed outside of Village 5, the City would be required to conduct an independent CEQA review of the construction of any such new facilities. Nevertheless, the construction of any new library facilities is expected to result in less-than-significant impacts because they would likely be located near existing development, and would be limited to a single building. Such a small construction project could also be exempt from CEQA review under various exemptions. This impact is considered **less than significant**.

Area A

Based on the City's demand rates, 3,596.4 square feet of library space would be required to serve Area A. The addition of the Area A population would increase the city-wide required square footage of library space to 35,240.4 square feet, which is below the square footage of the existing library. Enough library space would be available at the existing City library to accommodate demand from Area A and no new facilities would be required. Therefore, the impact is **less than significant**.

Mitigation Measure

None required.

Cumulative Impacts

The cumulative context for the provision of police protection, fire protection, parks, and libraries is the buildout of the 2050 Lincoln General Plan, because the City of Lincoln is responsible for offering each of these services within their city limits. For schools, the cumulative context is the area that WPUSD serves, which contains the City of Lincoln and portions to the northeast, north, and west of the city.

Impact 3.14-6: The proposed project, along with other cumulative growth, could cumulatively increase the demand for law enforcement facilities, such that substantial physical deterioration of the facilities could occur or be accelerated in order to maintain acceptable service ratios or response times or new facilities would need to be constructed, which could have a significant effect on the environment.

As mentioned in the 2050 General Plan, Lincoln is projected to grow to a population of 132,000 people in 2050, resulting in an increase of 192 percent from the 2014 population of 45,206.³⁸ This growth in the population would similarly increase the demand for services from LPD, which would require additional sworn and non-sworn officers to maintain the current service levels of police protection in Lincoln. The police force would grow as a result of the increased population and demand for services, though the specific ratio of police officers relative to the population of Lincoln residents could change as policing strategies and technology change within Lincoln. Growth anticipated under the buildout of the 2050 General Plan would result in a demand for 247 officers and 53 non-sworn staff, as well as 142,329 square feet of office space. The location of this additional office space has not been identified and therefore the impacts have not yet been studied. As a result, the cumulative impacts of constructing police office space to maintain levels of service could be **potentially significant**.

As discussed above, full buildout of Village 5 would require 36 new officers and 8 new non-sworn staff, as well as 20,971 square feet of new office space. As a result, the Plan Area has been designed to provide one police station on site. This station would be built to the specifications of

³⁸ Ibid.

the requirements of the City of Lincoln and would be large enough in size to provide the appropriate number of staff and therefore fulfill the needs of the LPD service area. All environmental impacts related to the construction of the required police facilities as a result of the proposed project are included in the relevant technical sections of this EIR.

Because the V5SP would construct a temporary police station within the Plan Area, and provide public/quasi-public land use designations within the Plan Area that could accommodate a larger or more permanent police station, the V5SP would not have a cumulatively considerable impact on police facilities. Thus, the cumulative impact of providing police facilities would be **less than significant**.

Mitigation Measure

None required.

Impact 3.14-7: The proposed project, along with other cumulative growth, would cumulatively increase the demand for fire protection facilities, such that substantial physical deterioration of the facilities could occur or be accelerated in order to maintain acceptable service ratios or response times or new facilities could need to be constructed, which could have a significant effect on the environment.

Cumulative growth and development in the City of Lincoln would result in an increase in the population of Lincoln and cause an increased demand for fire protection personnel, equipment, and facilities. Growth anticipated under the buildout of the 2050 General Plan would result in a demand for 167 fire department staff and 152,515 square feet of station space. As noted within the environmental setting, the economic downturn has led to a decrease in the ratio of firefighters relative to the number of Lincoln residents, but over time, and as the economy improves, it is anticipated that the development of the City and its villages would bring an increase in funding and a return to historic staffing and facility levels for fire protection. The location of the additional facilities necessary for the full buildout of the 2050 General Plan has not been identified and therefore the environmental impacts have not yet been studied. As a result, the cumulative impacts of constructing fire station space to maintain levels of service could be **potentially significant**.

As discussed above, full buildout of Village 5 would require 25 new staff as well as 22,476 square feet of new station space. As a result, the Plan Area has been designed to accommodate two new fire stations. These stations would be built to the specifications of the requirements of the City of Lincoln and would be large enough in size to provide the appropriate number of staff and therefore fulfill the needs of the service area. All environmental impacts related to the construction of the required fire facilities as a result of the V5SP are included in the relevant technical sections of this EIR.

Accordingly, the provision of adequate fire facilities within the V5SP would not have a cumulatively considerable impact. Thus, the cumulative impact of providing fire protection facilities would be **less than significant**.

Mitigation Measure

None required.

Impact 3.14-8: The proposed project, along with other cumulative growth, could cumulatively increase the demand for school services and facilities, such that substantial physical deterioration of the facilities could occur or be accelerated or new facilities could need to be constructed, which could have a significant effect on the environment.

The residential development in Lincoln would lead to an increase in the number of students residing within the city limits, and therefore the WPUSD boundaries. In the 2014 School Facilities Master Plan, WPUSD accommodates for the projections found in the 2050 General Plan, estimating that a total of 17 elementary schools, four middle schools, and two high schools would need to be built in order to adequately meet the generated student demand upon buildout of the 2050 General Plan.³⁹ Buildout of the 2050 General Plan would generate 18,984 elementary school students, 4,526 middle school students, and 6,956 high school students, for a total of 30,466 students, as shown in **Table 3.14-9**. The location and configuration of these school facilities has not yet been determined or studied. Therefore, the cumulative impact of providing adequate school facilities for the buildout of the 2050 General Plan could be **potentially significant**.

**TABLE 3.14-9.
CUMULATIVE STUDENT GENERATION**

Type of School	Single Family Units	Single Family Generation Rate (students/dwelling unit)	Single Family Student Generation	Multi Family Units	Multi Family Generation Rate (students/dwelling unit)	Multi Family Student Generation	Total Students Generated
Elementary (K-5)	31,793	0.373	11,859	18,849	0.378	7,125	18,984
Middle (6-8)	31,793	0.089	2,830	18,849	0.090	1,696	4,526
High (9-12)	31,793	0.1	3,752	18,849	0.170	3,204	6,956
TOTAL			18,440			12,026	30,466

NOTE:

1. Unit counts are calculated as the total of 2007 housing units plus the additional housing units projected for the buildout of the 2050 Lincoln General Plan.

SOURCES:

City of Lincoln. 2010. Background Report – Housing Element. April 27, 2010; City of Lincoln. 2006. Draft Environmental Impact Report, City of Lincoln General Plan. SCH# 2005112003. October 2006; Single Family and Multi Family Generation Rates: Heather Steer, Facilities Coordinator, Western Placer Unified School District, electronic communication, October 2014; ESA 2014.

³⁹ Western Placer Unified School District. 2014. School Facilities Master Plan: June 2014. June 2014. pp. 50–51.

As discussed above, full buildout of Village 5 would generate 2,695 elementary school students, 643 middle school students, and 928 high school students, for a total of 4,266 students. As a result, the Plan Area has been designed to accommodate four elementary schools, one middle school, and one high school. These schools would be built to the specifications of the requirements of the City of Lincoln and WPUSD, and would be large enough in size to accommodate the demand brought about by this increase in students, thereby fulfilling the needs of the service area. All environmental impacts related to the construction of the required schools as a result of the proposed project are included in the relevant technical sections of this EIR.

As a result, the V5SP would not have a cumulatively considerable contribution to the need for school facilities or to the impacts of constructing these facilities. Therefore, the cumulative impact of providing adequate school facilities would be **less than significant**.

Mitigation Measure

None required.

Impact 3.14-9: The proposed project, in combination with other cumulative development, would not cumulatively increase the demand for parks and recreation facilities, such that substantial physical deterioration of the facilities would occur or be accelerated in order to maintain acceptable service ratios.

The proposed project, along with development occurring from the other villages and the existing City of Lincoln, would result in an increase in the population of Lincoln and cause an increased demand for parks. However, as the proposed project and additional villages are built within Lincoln, the developments would have to pay the appropriate fees and build the sufficient number and acreage of parks to provide for the additional population growth for the city. By constructing the required facilities for parks in accordance with (or above and beyond, in this case) City standards, substantial physical deterioration of parks would not occur as a result of the growth anticipated for buildout of the 2050 General Plan. Therefore, there would be no considerable impact on parks or recreation facilities and this cumulative impact would be **less than significant**.

Mitigation Measure

None required.

Impact 3.14-10: The proposed project, in combination with other cumulative development, could cumulatively increase the demand for libraries, such that substantial physical deterioration of the facilities could occur or be accelerated in order to maintain acceptable service ratios.

The proposed project, along with development occurring from the other villages and the existing City of Lincoln, would result in an increase in the population of Lincoln and cause an increased demand for libraries. As additional villages are built within the Planning Area for Lincoln, it is anticipated that these developments would have to pay the appropriate fees and/or build the sufficient number of libraries to provide for the additional population growth for the city. By paying the requisite fees and/or constructing the required facilities for libraries in accordance with City standards, substantial physical deterioration of libraries would not occur as a result of the growth anticipated for buildout of the 2050 General Plan. Therefore, there would be no considerable impact on libraries and this cumulative impact would be **less than significant**.

Mitigation Measure

None required.

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3.15 Transportation and Circulation

This section analyzes the potential transportation and circulation impacts resulting from the implementation of the V5SP. This includes the proposed project's potential impacts on the roadway, transit, bicycle, and pedestrian systems under existing and cumulative conditions. The "existing plus project" scenario analyzes the impacts of the project on the existing environmental setting. The "cumulative plus project" section analyzes the project's cumulative effects when viewed in conjunction with reasonably foreseeable projects. Appendix L of this Draft EIR includes the data supporting the impact analysis.

This section is organized into three main sections. The first section describes the environmental setting, which is the baseline condition upon which project impacts are evaluated. The second section describes the federal, state, and local transportation policies that apply to the project. The third section describes the project's impacts and mitigation measures including standards of significance and methods of analysis.

The notice of preparation for the V5SP EIR (Appendix A in this Draft EIR) yielded comment letters relating to the scope of the transportation analysis from responsible agencies, including Caltrans, Placer County, the City of Roseville, and the City of Rocklin. The comments, which are included in Appendix A of this Draft EIR, generally related to the study area, approach, analysis scenarios, acceptable forms of mitigation, and overall circulation concerns. The analysis contained herein addresses those comments that are relevant to the study.

The analysis included in this section was developed based on the V5SP land use and circulation plans, information provided in the City of Lincoln 2050 General Plan, the City of Roseville General Plan 2025, the Placer County General Plan, Caltrans' State Route 65 Corridor System Management Plan, and Caltrans' Guide for the Preparation of Traffic Impact Studies.

3.15.1 Environmental Setting

This section describes the existing transportation network in the vicinity of the Plan Area, including the roadway, transit, pedestrian, and bicycle systems. The environmental setting represents approximate 2013-2014 conditions, corresponding to the timeframe in which the NOP was released.

Roadway System

The roadway network includes local streets and intersections, plus state and federal highways and freeways.

Study Area

An extensive study area was selected for analysis, given the project's size, traffic generation characteristics, and existing/projected traffic conditions in the area. The study locations analyzed for this report include the following intersections, roadways, and state freeways and highways:

Intersections

1. SR 65/Riosa Road
2. SR 65/Wise Road
3. SR 65/Nelson Lane
4. SR 65 Southbound Ramps/Ferrari Ranch Road
5. SR 65 Northbound Ramps/Ferrari Ranch Road
6. SR 65 Southbound On-Ramp/Lincoln Boulevard
7. SR 65 Northbound On-Ramp/Lincoln Boulevard
8. SR 65 Southbound Ramps/Twelve Bridges Drive
9. SR 65 Northbound Ramps/Twelve Bridges Drive
10. Nelson Lane/Nicolaus Road
11. Airport Road/Nicolaus Road
12. Joiner Parkway/Nicolaus Road
13. Dowd Road/Nicolaus Road
14. Nelson Lane/Moore Road
15. Fiddymment Road/Moore Road
16. Fiddymment Road/Athens Avenue
17. Fiddymment Road/E. Catlett Road
18. Fiddymment Road/W. Sunset Boulevard
19. Fiddymment Road/Blue Oaks Boulevard
20. Fiddymment Road/Pleasant Grove Boulevard
21. Fiddymment Road/Baseline Road
22. Dowd Road/Moore Road
23. Sorrento Parkway/Moore Road
24. Sorrento Parkway/Ferrari Ranch Road
25. Caledon Circle-Courtyards Way/Ferrari Ranch Road
26. Joiner Parkway/Ferrari Ranch Road
27. Joiner Parkway/1st Street
28. Lincoln Boulevard/Ferrari Ranch Road
29. Lincoln Boulevard/1st Street
30. Lincoln Boulevard/McBean Park Drive
31. Lincoln Boulevard/7th Street
32. Lakeside Drive/Nicolaus Road

33. Teal Hollow Drive-Waverly Drive/Nicolaus Road
34. Sterling Parkway/Lincoln Boulevard
35. Industrial Avenue/Athens Avenue
36. Industrial Avenue/Twelve Bridges Drive

Future Project Intersections

37. Dowd Road/Mavis Road
38. "A Street"/Mavis Road
39. Ruth Avenue/Mavis Road
40. Nelson Lane/Mavis Road
41. Dowd Road/Rachel Avenue
42. "A Street"/Rachel Avenue
43. Ruth Avenue/Rachel Avenue
44. Nelson Lane/Rachel Avenue
45. Dowd Road/"B Street"
46. "A Street"/"B Street"
47. "A Street"/Moore Road

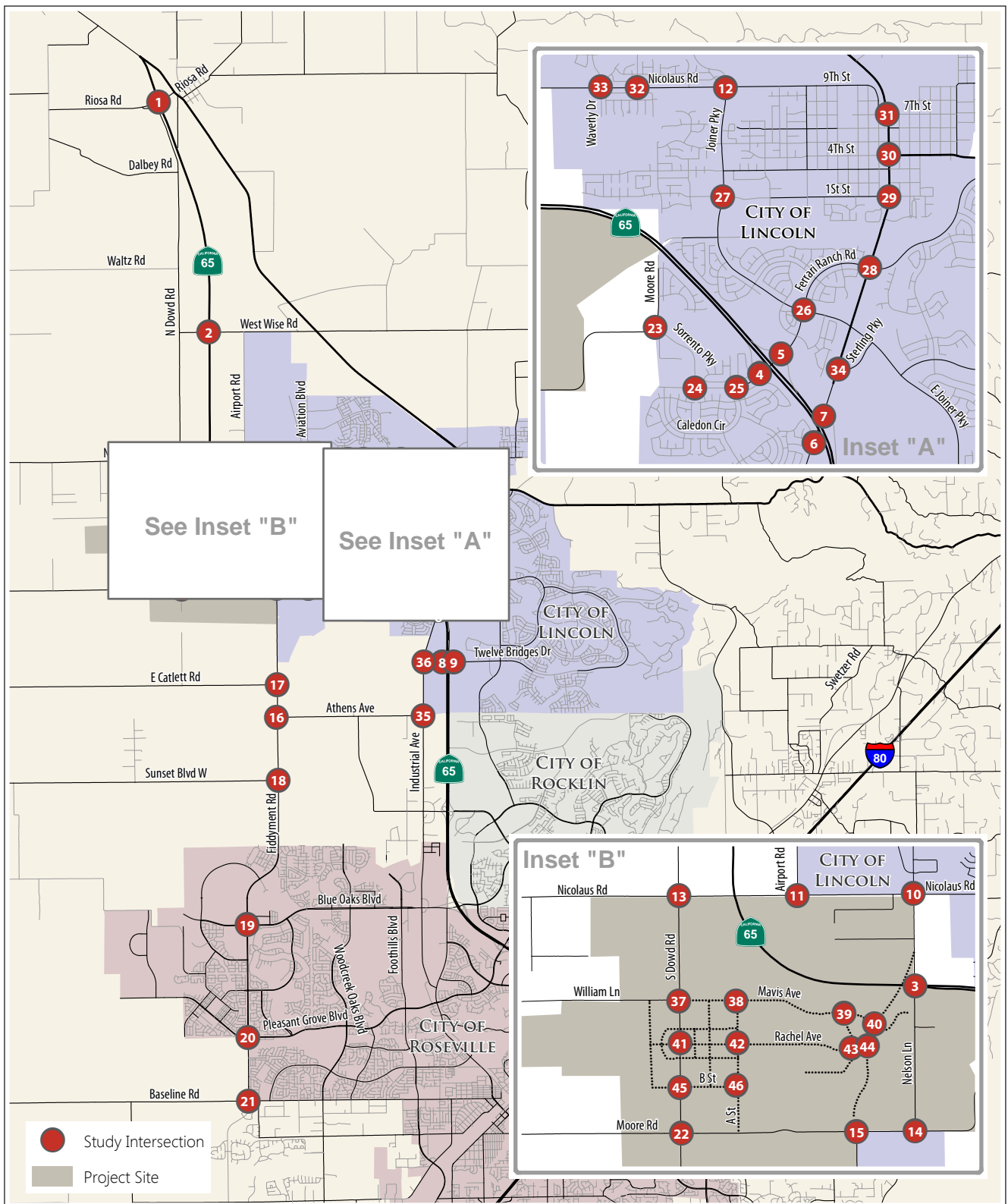
Roadway Segments

1. Fiddymment Road – Moore Road to Athens Avenue
2. Fiddymment Road – Athens Avenue to Roseville City Limits
3. Athens Avenue – Fiddymment Road to Foothills Boulevard

State Freeway & Highway Segments

1. SR 65 Northbound – Sunset Boulevard to Twelve Bridges Drive
2. SR 65 Northbound – Twelve Bridges Drive to Lincoln Boulevard
3. SR 65 Northbound – Ferrari Ranch Road to Nelson Lane
4. SR 65 Southbound – Nelson Lane to Ferrari Ranch Road
5. SR 65 Southbound – Ferrari Ranch Road to Twelve Bridges Drive
6. SR 65 Southbound – Twelve Bridges Drive to Sunset Boulevard
7. SR 65 – Nelson Lane to Wise Road
8. SR 65 – Wise Road to Riosa Road
9. SR 65 – North of Riosa Road

Figure 3.15-1 shows the study area and the study intersections. Note that this figure shows both the existing intersections and the future proposed project intersections.



SOURCE: Fehr & Peers, 2015

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Figure 3.15-1
Study Area and Study intersections

The study intersections in this analysis are operated and maintained by multiple jurisdictions, including the City of Lincoln, Caltrans, and Placer County. Therefore, the study intersections are also subject to differing level of service (LOS) standards based on the presiding jurisdiction's LOS policy. **Table 3.15-1** identifies the presiding jurisdiction and LOS standard for each study intersection.

**TABLE 3.15-1.
LEVEL OF SERVICE STANDARDS – INTERSECTIONS**

Intersection	Jurisdiction	LOS Standard
1. SR 65/Riosa Road	Caltrans	D
2. SR 65/Wise Road	Caltrans	D
3. Nelson Lane/SR 65	Caltrans	E
4. SR 65 SB Ramps/Ferrari Ranch Road	Caltrans	D
5. SR 65 NB Ramps/Ferrari Ranch Road	Caltrans	D
6. SR 65 SB On-Ramp/Lincoln Blvd.	Caltrans	D
7. SR 65 SB Ramps/Twelve Bridges Drive	Caltrans	D
8. SR 65 NB Ramps/Twelve Bridges Drive	Caltrans	D
9. Nelson Lane/Nicolaus Road	City of Lincoln	C
10. Airport Road/Nicolaus Road	City of Lincoln	C
11. Joiner Parkway/Nicolaus Road	City of Lincoln	C
12. Dowd Road/Nicolaus Road	Unincorporated Placer County	C
13. Nelson Lane/Moore Road	Unincorporated Placer County	C
14. Fiddymment Road/Moore Road	Unincorporated Placer County	C
15. Fiddymment Road/Athens Avenue	Unincorporated Placer County	C
16. Fiddymment Road/E. Catlett Road	Unincorporated Placer County	C
17. Fiddymment Road/W. Sunset Blvd.	Unincorporated Placer County	C
18. Fiddymment Road/Blue Oaks Blvd.	City of Roseville	C
19. Fiddymment Road/Pleasant Grove Blvd.	City of Roseville	C
20. Fiddymment Road/Baseline Road	City of Roseville	C
21. Dowd Road/Moore Road	Unincorporated Placer County	C
22. Sorrento Parkway/Moore Road	Unincorporated Placer County	C
23. Sorrento Parkway/Ferrari Ranch Road	City of Lincoln	C
24. Caledon Circle/Ferrari Ranch Road	City of Lincoln	C
25. Joiner Parkway/Ferrari Ranch Road	City of Lincoln	C
26. Joiner Parkway/1st Street	City of Lincoln	C
27. Lincoln Blvd./Ferrari Ranch Road	City of Lincoln	C
28. Lincoln Blvd./1st Street	City of Lincoln	F
29. Lincoln Blvd./McBean Park Drive	City of Lincoln	F
30. Lincoln Blvd./7th Street	City of Lincoln	F
31. Lakeside Drive/Nicolaus Road	City of Lincoln	C

**TABLE 3.15-1.
LEVEL OF SERVICE STANDARDS – INTERSECTIONS**

Intersection	Jurisdiction	LOS Standard
32. Teal Hollow Drive/Nicolaus Road	City of Lincoln	C
33. Sterling Parkway/Lincoln Blvd.	City of Lincoln	C
34. Industrial Avenue/Athens Avenue	Unincorporated Placer County	C
35. Industrial Avenue/Twelve Bridges Drive	Unincorporated Placer County	C
36. Dowd Road/Mavis Road (Future)	City of Lincoln (Future)	C
37. "A Street"/Mavis Road (Future)	City of Lincoln (Future)	C
38. Ruth Avenue/Mavis Road (Future)	City of Lincoln (Future)	C
39. Nelson Lane/Mavis Road (Future)	City of Lincoln (Future)	C
40. Dowd Road/Rachel Avenue (Future)	City of Lincoln (Future)	C
41. "A Street"/Rachel Avenue (Future)	City of Lincoln (Future)	C
42. Ruth Avenue/Rachel Avenue (Future)	City of Lincoln (Future)	C
43. Nelson Lane/Rachel Avenue (Future)	City of Lincoln (Future)	C
44. Dowd Road/"B Street" (Future)	City of Lincoln (Future)	C
45. "A Street"/"B Street" (Future)	City of Lincoln (Future)	C
46. Moore Road/"A Street" (Future)	City of Lincoln (Future)	C

NOTES:

1. Level of Service (LOS) standard based on presiding jurisdiction's LOS policy.

SOURCE: Fehr & Peers, 2015.

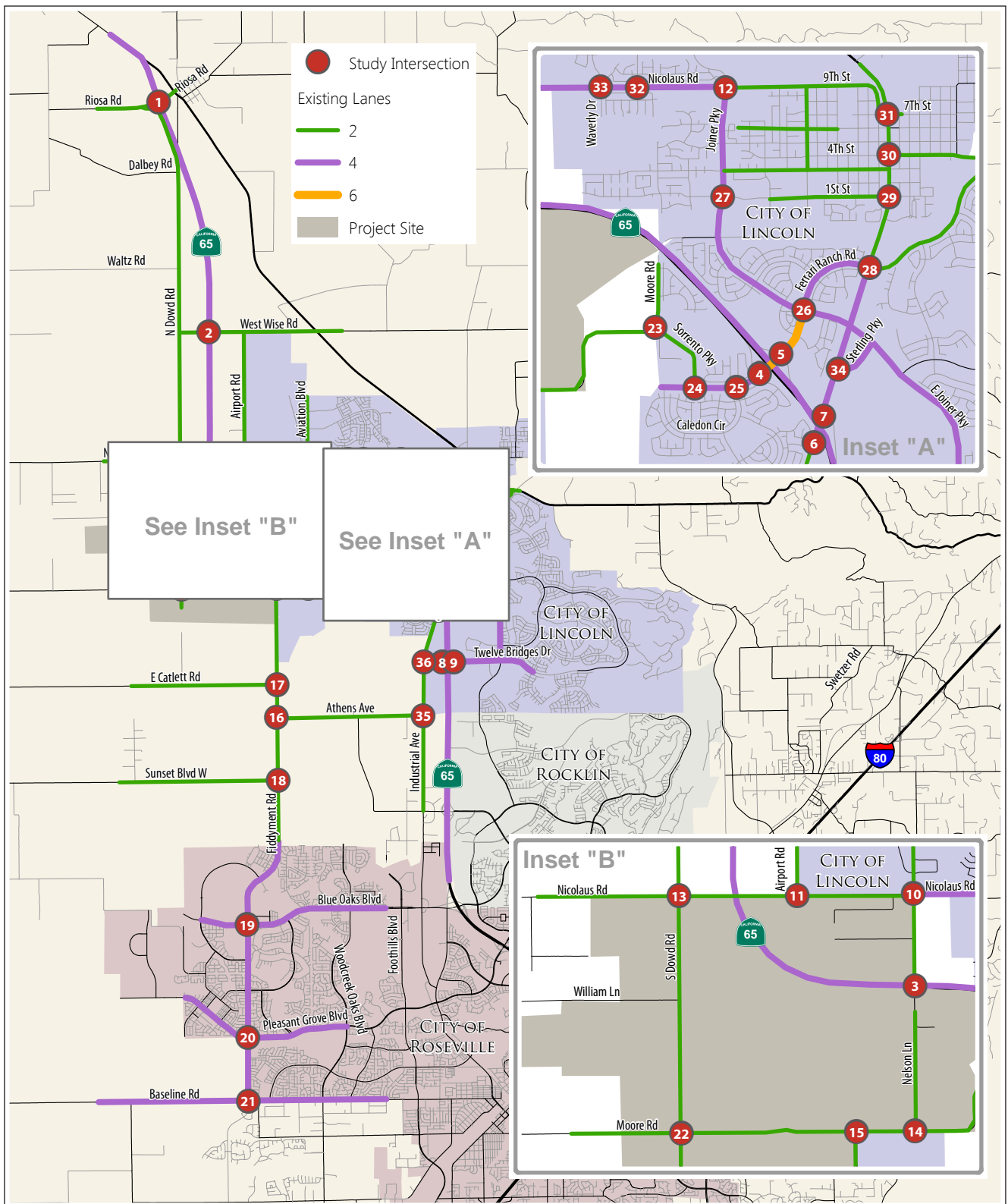
Key Roadways

Figure 3.15-2 displays the existing number of travel lanes on the major roadways in the study area. Key roadways within the study area are described below.

State Route 65 (SR 65) – is a north-south state highway that begins at Interstate 80 (I-80) and extends north through Lincoln to SR 70 south of Marysville. SR 65 is a four-lane freeway from I-80 to the at-grade intersection with Nelson Lane. It continues as a four-lane divided highway from Nelson Lane to north of Wise Road. North of Wise Road, it becomes a two-lane state highway connecting the area to Yuba County and Marysville to the north.

The section of SR 65 between Lincoln Boulevard and Riosa Road is known as the Lincoln Bypass. The Lincoln Bypass opened in 2012 to facilitate travel between South Placer County and Yuba County and reduce through traffic on surface streets in the City of Lincoln. The former SR 65 alignment through Downtown Lincoln is now called Lincoln Boulevard.

Dowd Road – is a two-lane, north-south rural roadway that runs between Moore Road at the south to Riosa Road on the north. South of Riosa Road, it generally parallels the SR 65 bypass to the west.



SOURCE: Fehr & Peers, 2015

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Figure 3.15-2
 Existing Roadway Network

Nelson Lane – is a two-lane, north-south rural roadway that runs from Moore Road north to Nicolaus Road. It has a signalized intersection with SR 65 where SR 65 transitions from an access-controlled freeway to a multi-lane highway.

Fiddymment Road – is a north south arterial roadway that extends from Moore Road south into Roseville to Baseline Road. South of Baseline Road, it becomes Walerga Road traveling south into Sacramento County. North of Roseville, it is a two-lane rural roadway. Within the City of Roseville, it is generally a four-lane divided arterial.

Nicolaus Road – is an east-west arterial roadway that extends from H Street near Lincoln High School west to the Sutter County Line. Within the Study Area, it is a four-lane divided roadway between Nelson Lane and Joiner Parkway. It is two-lanes east of Joiner Parkway and a two-lane rural roadway west of Nelson Lane. It has a grade separated overcrossing of the SR 65 bypass.

Moore Road – is a two-lane, east-west arterial street that begins west of SR 65 and extends to the southwest to Fiddymment Road and beyond. Segments of this street are within the City of Lincoln and unincorporated Placer County.

Analysis Periods

The City of Lincoln’s traffic operations policy focuses on peak hour intersection operations. Therefore, this study evaluates the traffic conditions during the following analysis periods:

- Weekday A.M. Peak Hour – the a.m. peak hour is defined as the consecutive 60-minute period that has the greatest traffic volume within the 7:00 to 9:00 a.m. peak period.
- Weekday P.M. Peak Hour – the p.m. peak hour is defined as the consecutive 60-minute period that has the greatest traffic volume within the 4:00 to 6:00 p.m. peak period.

Traffic Data Collection

This analysis uses traffic counts collected between May 2013 and August 2014. **Figures 3.15-3a and 3.15-3b** present the existing lane configurations and traffic control devices at the existing study intersections.

Traffic Operations

This study analyzes traffic operations on roadway facilities using the concept of LOS. Roadway LOS is a qualitative description of traffic flow from the perspective of motorists, and is an indication of the comfort and convenience associated with driving. The *Highway Capacity Manual* (HCM) defines six levels of service from LOS A representing the least congested traffic conditions to LOS F representing the most congested traffic conditions. The analysis uses the methodology presented in the HCM to analyze the traffic conditions at study roadway locations.

Intersections

Table 3.15-2 presents the delay ranges associated with each LOS category for signalized and unsignalized intersections.

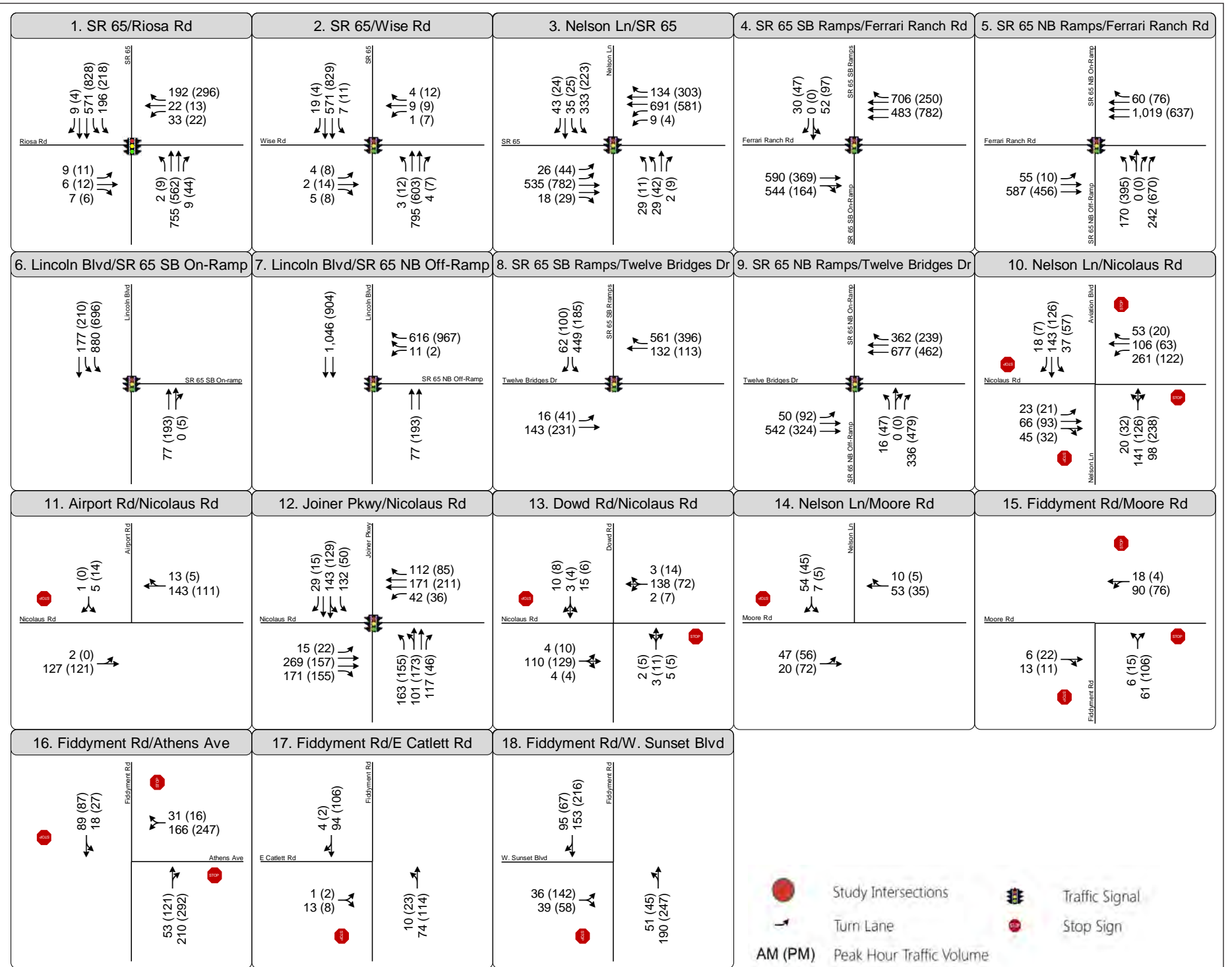
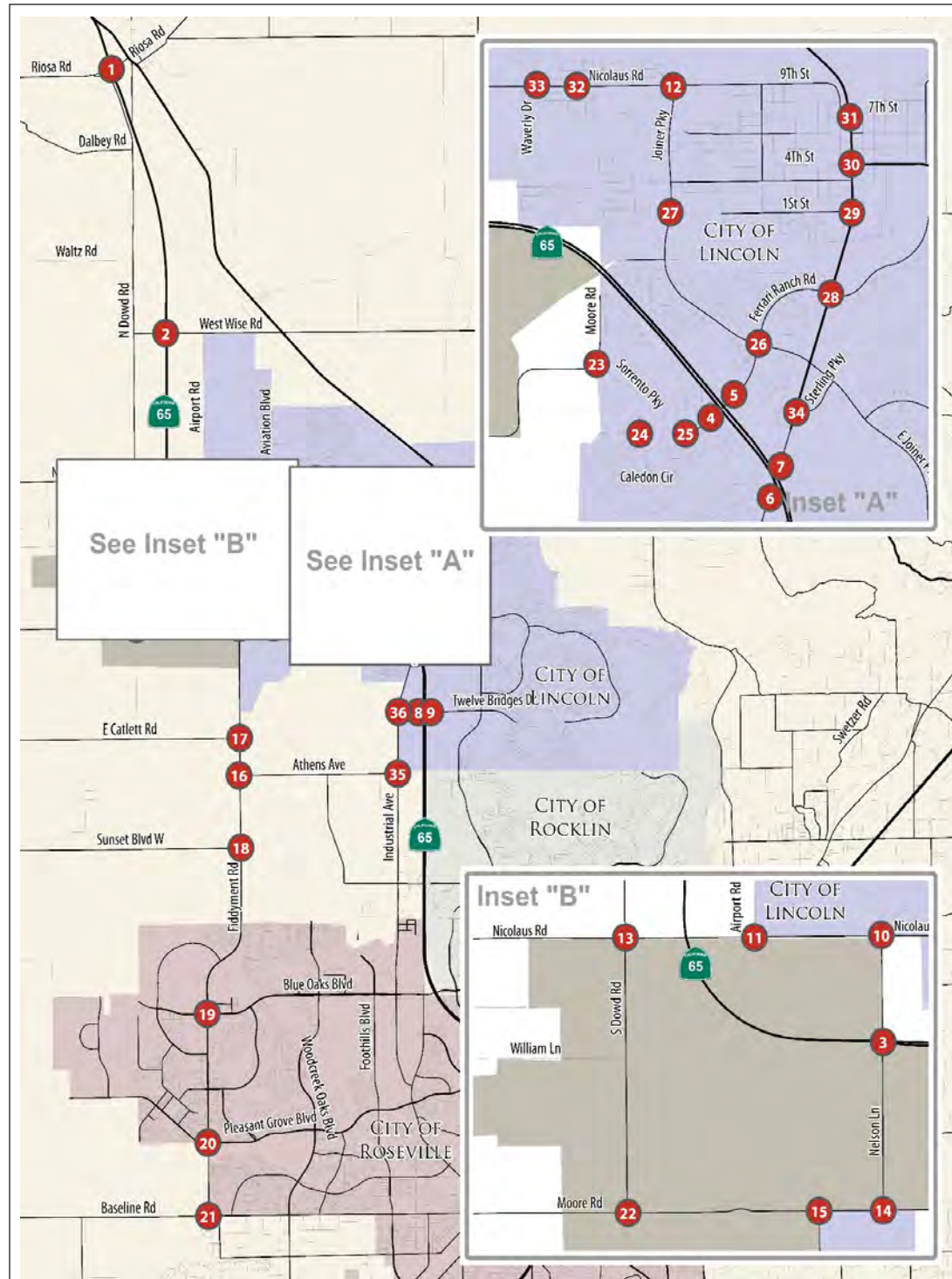


Figure 3.15-3A
Peak Hour Traffic Volumes and Lane Configurations - Existing Conditions

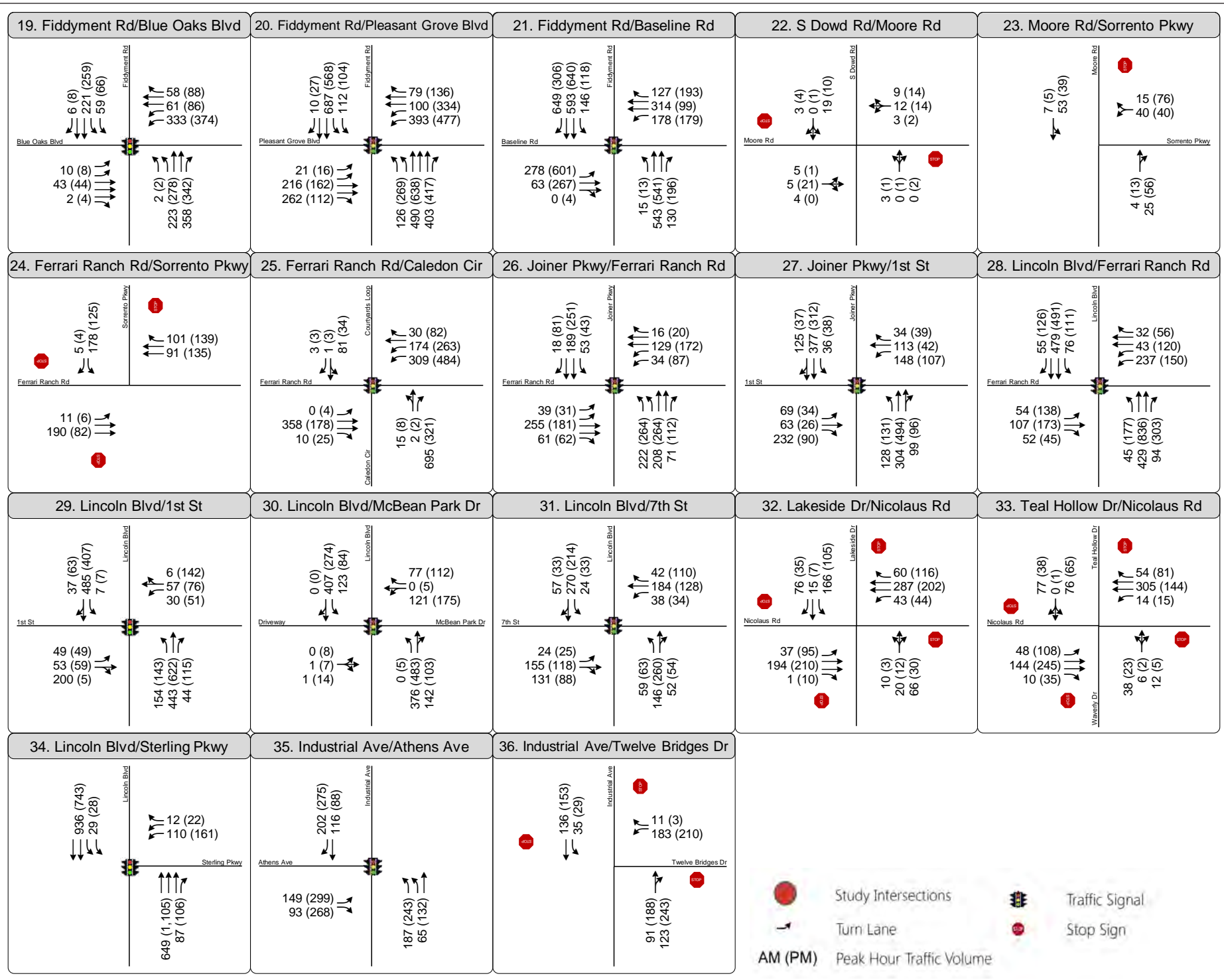
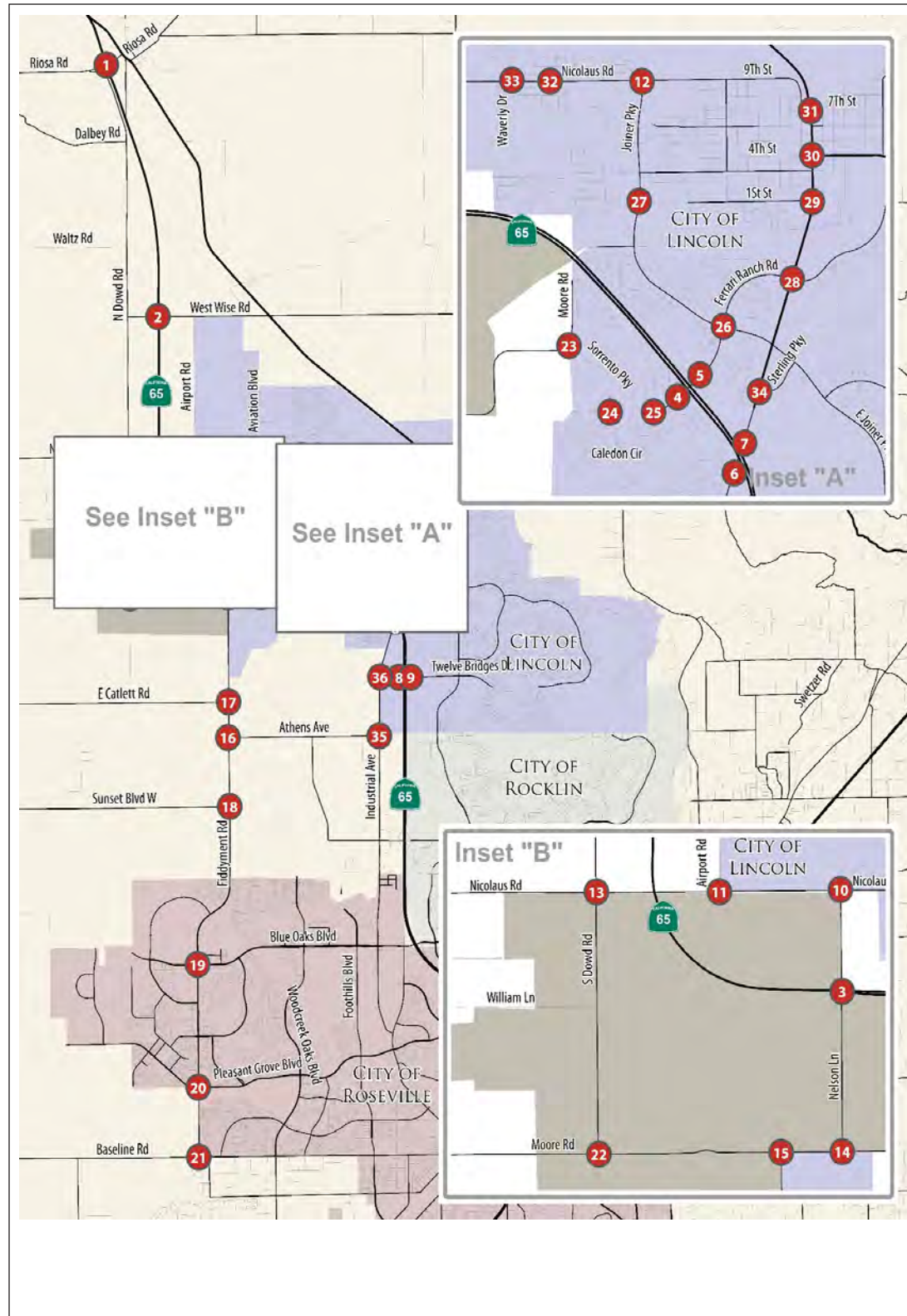


Figure 3.15-3B
Peak Hour Traffic Volumes and Lane Configurations - Existing Conditions

TABLE 3.15-2.
INTERSECTION LEVEL OF SERVICE DEFINITIONS

Level of Service	Average Delay (seconds per vehicle) ¹		Description
	Signalized Intersections	Unsignalized Intersections	
A	0 – 10.0	0 – 10.0	Minimal control delay.
B	10.1 – 20.0	10.1 – 15.0	Insignificant traffic delays.
C	20.1 – 35.0	15.1 – 25.0	Increased traffic delays; queues may build.
D	35.1 – 55.0	25.1 – 35.0	Longer traffic delays; increased queuing.
E	55.1 – 80.0	35.1 – 50.0	Very long traffic delays.
F	> 80.0	> 50.0	Stop-and-go conditions.

NOTES:

1. Average control delay includes initial deceleration delay, queue move-up time, stopped delay, and acceleration delay.

SOURCE: Transportation Research Board, 2010. *Highway Capacity Manual*. pp. 18-6, 19-2, 20-3, 21-1.

This study uses the Synchro 8 traffic operations software to analyze traffic operations at study intersections. The Synchro 8 analysis software calculates intersection LOS consistent with the HCM procedures. At most intersections, this study applies the HCM 2010 methodology. At some locations, the intersection configuration is not compatible with the HCM 2010 methodology, and the study uses the HCM 2000 methodology. The HCM 2000 methodology uses the same delay thresholds as the HCM 2010 methodology (see Table 3.15-2).

Table 3.15-3 presents the a.m. and p.m. peak hour LOS at each study intersection under existing conditions (refer to Appendix L for calculations).

Based on the results presented in Table 3.15-3, all intersections operate at LOS C or better with the exception of the following three locations, which operate at LOS D, E, or F:

- Fiddymment Road/Baseline Road (#21) – LOS D during the a.m. peak hour and LOS F during the p.m. peak hour
- Caledon Circle/Ferrari Ranch Road (#25) – LOS E during the a.m. peak hour
- Lincoln Boulevard/1st Street (#29) – LOS D during the a.m. peak hour

The Fiddymment Road/Baseline Road intersection is identified in the City of Roseville General Plan as one of the intersections anticipated to operate at an LOS worse than LOS C. As described in Section 3.15.2, the City of Roseville General Plan's LOS policy is to maintain LOS C operations at a minimum of 70 percent of all signalized intersections.¹ Per Table III-3 in the City of Roseville General Plan, 165 of the 204 signalized intersections in Roseville, or 80.9 percent, are expected to operate at LOS C or better under 2025 conditions. The Fiddymment Road/Baseline Road intersection is one of the 39 intersections expected to operate at an LOS worse than LOS C.

¹ City of Roseville, 2010. City of Roseville General Plan 2025. Adopted May 5, 2010. p. III-31.

**TABLE 3.15-3.
INTERSECTION OPERATIONS – EXISTING CONDITIONS**

Intersection	Jurisdiction	Traffic Control	Peak Hour	Existing Conditions	
				Delay	LOS
1. SR 65/Riosa Road	Caltrans	Signal	A.M.	15	B
			P.M.	16	B
2. SR 65/Wise Road	Caltrans	Signal	A.M.	9	A
			P.M.	11	B
3. Nelson Lane/SR 65	Caltrans	Signal	A.M.	22	C
			P.M.	21	C
4. SR 65 SB Ramps/Ferrari Ranch Road	Caltrans	Signal	A.M.	4	A
			P.M.	4	A
5. SR 65 NB Ramps/Ferrari Ranch Road	Caltrans	Signal	A.M.	11	B
			P.M.	11	B
6. SR 65 SB On-Ramp/Lincoln Blvd.	Caltrans	Signal	A.M.	5	A
			P.M.	7	A
7. SR 65 NB Off-Ramp/Lincoln Blvd.	Caltrans	Signal	A.M.	2	A
			P.M.	1	A
8. SR 65 SB Ramps/Twelve Bridges Drive	Caltrans	Signal	A.M.	13	B
			P.M.	9	A
9. SR 65 NB Ramps/Twelve Bridges Drive	Caltrans	Signal	A.M.	11	B
			P.M.	11	B
10. Nelson Lane/Nicolaus Road	City of Lincoln	All-Way Stop Controlled (AWSC)	A.M.	19	C
			P.M.	18	C
11. Airport Road/Nicolaus Road	City of Lincoln	Side-Street Stop Controlled (SSSC)	A.M.	10	B
			P.M.	10	B
12. Joiner Parkway/Nicolaus Road	City of Lincoln	Signal	A.M.	12	B
			P.M.	10	B
13. Dowd Road/Nicolaus Road	Unincorporated Placer County	SSSC	A.M.	10	B
			P.M.	11	B
14. Nelson Lane/Moore Road	Unincorporated Placer County	SSSC	A.M.	9	A
			P.M.	9	A
15. Fiddymment Road/Moore Road	Unincorporated Placer County	AWSC	A.M.	8	A
			P.M.	8	A
16. Fiddymment Road/Athens Avenue	Unincorporated Placer County	AWSC	A.M.	10	A
			P.M.	13	B
17. Fiddymment Road/E. Catlett Road	Unincorporated Placer County	SSSC	A.M.	9	A
			P.M.	9	A
18. Fiddymment Road/W. Sunset Blvd.	Unincorporated Placer County	SSSC	A.M.	12	B
			P.M.	20	C
19. Fiddymment Road/Blue Oaks Blvd.	City of Roseville	Signal	A.M.	19	B
			P.M.	18	B
20. Fiddymment Road/Pleasant Grove Blvd.	City of Roseville	Signal	A.M.	29	C
			P.M.	26	C

**TABLE 3.15-3.
INTERSECTION OPERATIONS – EXISTING CONDITIONS**

Intersection	Jurisdiction	Traffic Control	Peak Hour	Existing Conditions	
				Delay	LOS
21. Fiddymont Road/Baseline Road	City of Roseville	Signal	A.M.	49	D
			P.M.	>150	F
22. Dowd Road/Moore Road	Unincorporated Placer County	SSSC	A.M.	9	A
			P.M.	9	A
23. Sorrento Parkway/Moore Road	Unincorporated Placer County	SSSC	A.M.	10	A
			P.M.	9	A
24. Sorrento Parkway/Ferrari Ranch Road	City of Lincoln	AWSC	A.M.	9	A
			P.M.	8	A
25. Caledon Circle/Ferrari Ranch Road	City of Lincoln	Signal	A.M.	60	E
			P.M.	15	B
26. Joiner Parkway/Ferrari Ranch Road	City of Lincoln	Signal	A.M.	16	B
			P.M.	15	B
27. Joiner Parkway/1st Street	City of Lincoln	Signal	A.M.	32	C
			P.M.	17	B
28. Lincoln Blvd./Ferrari Ranch Road	City of Lincoln	Signal	A.M.	14	B
			P.M.	18	B
29. Lincoln Blvd./1st Street	City of Lincoln	Signal	A.M.	37	D
			P.M.	20	B
30. Lincoln Blvd./McBean Park Drive	City of Lincoln	Signal	A.M.	16	B
			P.M.	26	C
31. Lincoln Blvd./7th Street	City of Lincoln	Signal	A.M.	16	B
			P.M.	15	B
32. Lakeside Drive/Nicolaus Road	City of Lincoln	AWSC	A.M.	13	B
			P.M.	9	A
33. Teal Hollow Drive/Nicolaus Road	City of Lincoln	AWSC	A.M.	10	A
			P.M.	9	A
34. Sterling Parkway/Lincoln Blvd.	City of Lincoln	Signal	A.M.	7	A
			P.M.	9	A
35. Industrial Avenue/Athens Avenue	Unincorporated Placer County	Signal	A.M.	15	B
			P.M.	17	B
36. Industrial Avenue/Twelve Bridges Drive	Unincorporated Placer County	AWSC	A.M.	10	B
			P.M.	14	B

NOTES:

1. For signalized and all-way stop controlled (AWSC) intersections, average intersection delay is reported in seconds per vehicle for all approaches.
2. Per the HCM, the LOS and average delay for the lane with the highest delay is reported for side-street stop controlled (SSSC) intersections.

Delays greater than 2.5 minute are reported as greater than 150 seconds due to model insensitivity for heavily congested conditions.

BOLD text indicates the intersection operates at an unacceptable LOS based on the presiding jurisdiction's level of service policy.

SOURCE: Fehr & Peers, 2015.

Therefore, the LOS D and LOS F operations during the a.m. and p.m. peak hours, respectively, are considered acceptable because this intersection is expected to operate at LOS D or worse, and more than 70 percent of the remaining City of Roseville’s signalized intersections operate at LOS C or better.

The Lincoln Boulevard/1st Street intersection is an intersection that is excluded from the City of Lincoln’s LOS C policy per the City of Lincoln General Plan policy T-2.3.²

Therefore, the Caledon Circle/Ferrari Ranch Road intersection is the only intersection that would exceed the City of Lincoln’s LOS C policy standard. The LOS E condition during the a.m. peak hour is primarily caused by a high northbound right-turn volume from the Lincoln Crossing neighborhood onto Ferrari Ranch Road towards SR 65. The City of Lincoln’s LOS policy is silent with regard to the a.m. peak hour; however, this study applies the City’s LOS policy to the a.m. peak hour as described in Section 3.15.2.

Roadways

All three study roadway segments are located within unincorporated Placer County. Therefore, this analysis uses LOS traffic volume thresholds obtained from the 1994 Placer County General Plan Final EIR. **Table 3.15-4** presents the daily traffic volume thresholds associated with each LOS category for arterial roadway segments with high access control. The 1994 Placer County General Plan Final EIR defines a high-access control arterial as a roadway with one to two stops per mile, limited driveways, and a free flow speed range of 35 to 50 miles per hour.³ All study roadway segments meet that definition.

**TABLE 3.15-4.
ROADWAY SEGMENT LEVEL OF SERVICE DEFINITIONS**

Roadway Type	Daily Two-Way Volume Thresholds				
	LOS A	LOS B	LOS C	LOS D	LOS E
2-lane Arterial – High Access Control ¹	12,000	14,000	16,000	18,000	20,000
4-lane Arterial – High Access Control ¹	24,000	28,000	32,000	36,000	40,000
6-lane Arterial – High Access Control ¹	36,000	42,000	48,000	54,000	60,000

NOTES:

1. High access controlled arterials are defined in the Countywide General Plan Final EIR as roadways with 1-2 stops per mile, limited driveways, and speeds of 35 to 50 mph. All study roadway segments meet this definition.

SOURCE: Placer County, 1994. Countywide General Plan Final Environmental Impact Report. July 26, 1994. Table 4-17.

This analysis uses these LOS traffic volume thresholds from the 1994 Placer County General Plan Final EIR because it is the most recent CEQA document for the Placer County General Plan. Placer County did adopt a targeted update of the 1994 Countywide General Plan in May 2013;

² City of Lincoln, 2008. City of Lincoln 2050 General Plan. Adopted March 25, 2008. p. 5-2. Note that G Street is also known as Lincoln Boulevard and/or “Old Highway 65.”

³ Placer County, 1994. Countywide General Plan Final Environmental Impact Report. July 26, 1994. Tables 4-16 & 4-17, p. 4-21.

however, that targeted update only included ministerial changes, incorporation of Board of Supervisors adopted resolutions, and revised language that was out-of-date. The targeted update did not:

- include any specific development projects
- modify General Plan land use designations, the land use map, or capital improvement program
- prepare a new CEQA document

Table 3.15-5 presents the daily traffic volumes for each roadway segment and the corresponding LOS under existing conditions. Daily traffic counts were collected on each study roadway segment in April 2014. Based on the results presented in Table 3.15-5, all study roadway segments operate at LOS A under existing conditions.

**TABLE 3.15-5.
DAILY ROADWAY SEGMENT OPERATIONS – EXISTING CONDITIONS**

Roadway Segment	Classification	Existing Conditions		
		Daily Traffic Volume	V/C ²	LOS ³
Fiddymment Road				
Moore Road to Athens Avenue	2-lane Arterial ¹	2,521	0.13	A
Athens Avenue to Roseville City Limits	2-lane Arterial ¹	7,539	0.38	A
Athens Avenue				
Fiddymment Road to Foothills Boulevard	2-lane Arterial ¹	6,512	0.33	A

NOTES:

1. High-Access Controlled Arterial, per the definition outlined in Table 4-16 of the Placer County Countywide General Plan Final EIR.
2. V/C = Volume-to-capacity ratio.
3. Level of service based on thresholds presented in Table 3.15-3 from the Placer County Countywide General Plan Final EIR.

SOURCE: Fehr & Peers, 2015

Highways

Non-freeway state highway facilities are analyzed using the highway capacity software (HCS 2010) consistent with the HCM. Within the study area, there are two types of highway segments: two-lane highways and multi-lane highways.

This study analyzes two-lane highway segments consistent with the methodologies in Chapter 15 of the 2010 HCM. The two-lane highway segment analysis identifies a single LOS value for the highway segment based on the average travel speed and percent time spent following (the average percentage of time that vehicles are traveling behind slower vehicles). **Table 3.15-6** presents the LOS definitions for two-lane highway segments as defined by the HCM.

Multi-lane highways are analyzed based on the methodology in Chapter 14 of the 2010 HCM. The multi-lane highway methodology identifies a LOS value for each direction of travel based on the vehicle density of the segment measured in passenger car equivalents per mile per lane.

**TABLE 3.15-6.
TWO-LANE HIGHWAY LEVEL OF SERVICE DEFINITIONS**

Level of Service	Average Travel Speed (mph)	Percent Time Spent Following (%)	Description
A	>55	≤35	Motorists experience high operating speeds and little difficulty in passing. Platoons of three or more vehicles are rare.
B	50.1 – 55	35.1 – 50	Passing demand and passing capacity are balanced. The degree of platooning becomes noticeable.
C	45.1 – 50	50.1 – 65	Most vehicles are traveling in platoons. Speeds are noticeably curtailed.
D	40.1 – 45	65.1 – 80	Platooning increases significantly. Passing demand is high, but passing capacity approaches zero. A high percentage of vehicles are now traveling in platoons.
E	≤40	>80	Demand is approaching capacity. Passing is virtually impossible. Speeds are seriously curtailed.
F	Demand Exceeds Capacity		Operations are unstable and heavy congestion exists.

NOTES:

1. Automobile LOS criteria for Class I two-lane highway. A Class I two-lane highway is defined as a major intercity routes in the state or national highway network where motorists expect to travel at relatively high speeds. SR 65 is considered a Class I two-lane highway.

SOURCE: Transportation Research Board, 2010. Highway Capacity Manual. December 2010. Exhibit 15-3.

Table 3.15-7 presents the LOS definitions for multi-lane highway segments as defined by the HCM.

**TABLE 3.15-7.
MULTI-LANE HIGHWAY LEVEL OF SERVICE DEFINITIONS**

Level of Service	Free-Flow Speed (mph)	Density (pcpmpl) ¹
A	All	≤ 11
B	All	> 11 to 18
C	All	> 18 to 26
D	All	> 26 to 35
E	60	> 35 – 40
	55	> 35 – 42
	50	> 35 – 43
	45	> 35 – 45
F	Demand Exceeds Capacity	
	60	>40
	55	>41
	50	>43
	45	>45

NOTES:

1. Density is expressed in passenger car equivalents per mile per lane (pcpmpl).

SOURCE: Transportation Research Board, 2010. Highway Capacity Manual. December 2010. Exhibit 14-4.

Table 3.15-8 presents the a.m. and p.m. peak hour traffic volumes and LOS results for the study highway segments under existing conditions. The traffic volumes are based on a.m. and p.m. peak

period counts collected in April 2014 at signalized intersections along SR 65 from Riosa Road to Nelson Lane.

**TABLE 3.15-8.
HIGHWAY OPERATIONS – EXISTING CONDITIONS**

Location	Peak Hour	Direction	Existing Conditions		LOS
			Performance Metric		
State Route 65 – Two Lane Highway ¹			PTSF	ATS (mph)	
North of Riosa Rd.	A.M.	Combined	89	39	E
	P.M.	Combined	84	39	E
State Route 65 – Multilane Highway ²			Density (pcpmp)		
Riosa Rd. to Wise Rd.	A.M.	Northbound	8		A
		Southbound	6		A
	P.M.	Northbound	8		A
		Southbound	6		A
Wise Rd. to Nelson Ln.	A.M.	Northbound	8		A
		Southbound	6		A
	P.M.	Northbound	8		A
		Southbound	6		A

NOTES:

1. Percent Time Spent Following (PTSF), Average Travel Speed (ATS), and LOS are calculated for two-lane highway segments using the methodologies and procedures in the Highway Capacity Manual (Transportation Research Board, 2010).
2. Density is reported in passenger car equivalents per mile per lane (pcpmp). Directional densities and LOS results for multilane highway segments are calculated using the methodologies and procedures in the Highway Capacity Manual (Transportation Research Board, 2010).

SOURCE: Fehr & Peers, 2015

Based on these results, the two-lane highway segment of SR 65 north of Riosa Road operates at LOS E, while the multi-lane highway segments of SR 65 between Riosa Road and Nelson Lane operate at LOS A under existing conditions.

As described in Section 3.15.2, the SR 65 Corridor System Management Plan (CSMP) identifies LOS E as the concept LOS (the minimal acceptable LOS over the time period 2009 to 2029) for SR 65 north of Riosa Road. South of Riosa Road, this study uses LOS D as the concept LOS for Riosa Road to Wise Road, and LOS E as the concept LOS from Wise Road to Lincoln Boulevard. These concept LOS determinations are described in Section 3.15.2.

Therefore, all highway segments operate at an acceptable LOS under existing conditions.⁴

Freeways

Freeway facilities are analyzed using procedures described in Chapters 11 and 13 of the HCM. In accordance with Caltrans policies, weave segments are analyzed using the Leisch method, which is

⁴ California Department of Transportation, 2009. State Route 65 Corridor System Management Plan. Approved June 24, 2009. Table 11.

described in the latest edition of the Highway Design Manual.⁵ **Table 3.15-9** identifies the density range associated with each LOS category for mainline segments and ramp merge/diverge segments. The Leisch method is based on service volume and only reports LOS for weave segments.

**TABLE 3.15-9.
FREEWAY LEVEL OF SERVICE DEFINITIONS**

Level of Service	Density (pcpmpl) ¹		Description
	Mainline	Ramp Junctions	
A	≤ 11	≤ 10	Free-flow operations. Drivers are almost completely unimpeded in their ability to maneuver within the traffic stream.
B	> 11 to 18	> 10 to 20	Free-flow speeds are maintained. The ability to maneuver within the traffic stream is only slightly restricted.
C	> 18 to 26	> 20 to 28	Traffic flow with speeds at or near free-flow speed. The freedom to maneuver within the traffic stream is noticeably restricted, and lane changes require more care and vigilance on the part of the driver.
D	> 26 to 35	> 28 to 35	Speeds begin to decline slightly with increasing flows. Freedom to maneuver within the traffic stream is noticeably limited.
E	> 35 to 45	> 35	Operations at or near capacity. There are virtually no useable gaps within the traffic stream, leaving little room to maneuver.
F	> 45 or Demand exceeds capacity	Demand exceeds capacity ²	Breakdown in vehicular flow. Vehicular demand exceeds capacity.

NOTES:

1. Density is expressed in passenger car equivalents per mile per lane (pcpmpl).
2. Occurs when freeway demand exceeds upstream (diverge) or downstream (merge) freeway segment capacity, or if off-ramp demand exceeds off-ramp capacity.

SOURCE: Transportation Research Board, 2010. Highway Capacity Manual. December 2010. Exhibits 11-5 and 13-2.

On-ramp and off-ramp volumes are collected based on the peak hour intersection turning movement counts. The volumes on the SR 65 mainline are derived from the counts at the Nelson Lane/SR 65 intersection where SR 65 transitions from an access-controlled freeway to a multi-lane highway.

Table 3.15-10 presents the a.m. and p.m. peak hour LOS at each study freeway facility under existing conditions (refer to Appendix L for calculations).

Based on the results presented in Table 3.15-10, all study freeway facilities operate at LOS C or better with the exception of the following two locations, which operate at LOS D:

- SR 65 Southbound: Twelve Bridges Drive On-Ramp – LOS D during the a.m. peak hour
- SR 65 Southbound: Twelve Bridges Drive to Sunset Blvd. – LOS D during the a.m. peak hour

⁵ California Department of Transportation, 2012. Highway Design Manual. May 7, 2012. pp. 500-38 - 500-41.

**TABLE 3.15-10.
FREEWAY OPERATIONS – EXISTING CONDITIONS**

Location	Segment Type	Peak Hour	Existing Conditions	
			Density ¹	LOS
Northbound SR 65				
Sunset Blvd. to Twelve Bridges Drive	Basic	A.M.	16	B
		P.M.	25	C
Twelve Bridges Drive Off-Ramp	Diverge	A.M.	20	C
		P.M.	31	C
Twelve Bridges Drive to Lincoln Blvd.	Weave ²	A.M.	-	A
		P.M.	-	C
Ferrari Ranch Road Off-Ramp	Diverge	A.M.	7	A
		P.M.	10	A
Ferrari Ranch Road On-Ramp	Merge	A.M.	10	A
		P.M.	9	A
Ferrari Ranch Road to Nelson Lane	Basic	A.M.	8	A
		P.M.	7	A
Southbound SR 65				
Nelson Lane to Ferrari Ranch Road	Basic	A.M.	8	A
		P.M.	9	A
Ferrari Ranch Road Off-Ramp	Diverge	A.M.	11	B
		P.M.	13	B
Ferrari Ranch Road Loop On-Ramp	Basic	A.M.	9	A
		P.M.	6	A
Ferrari Ranch Road Slip On-Ramp	Merge	A.M.	14	B
		P.M.	8	A
Lincoln Blvd. to Twelve Bridges Drive	Weave ²	A.M.	-	C
		P.M.	-	A
Twelve Bridges Drive On-Ramp	Merge	A.M.	28	D
		P.M.	21	C
Twelve Bridges Drive to Sunset Blvd.	Basic	A.M.	26	D
		P.M.	18	C

NOTES:

1. Density is expressed in passenger car equivalents per mile per lane (pcpmpl)

2. Per Caltrans' *Guide for the Preparation of Traffic Impact Studies*, weave sections are analyzed using the Leisch Method as described in Chapter 500 of the *Highway Design Manual*. Weave LOS results are based on service volume (density not calculated).

SOURCE: Fehr & Peers, 2015

As described in Section 3.15.2, the SR 65 CSMP identifies LOS E as the concept LOS for SR 65 between Blue Oaks Boulevard and Industrial Avenue (now Lincoln Boulevard), where these two segments are located.⁶ Therefore, these LOS D conditions on SR 65 are considered acceptable and all study freeway segments operate at an acceptable LOS under existing conditions.

⁶ California Department of Transportation, 2009. State Route 65 Corridor System Management Plan. Approved June 24, 2009. Table 11.

Bicycle Network

Bicycle facilities are grouped into the following three classifications:

- Multi-use paths (Class I) – are paved trails that are separated from roadways, and allow for shared use by both cyclists and pedestrians.
- On-street bike lanes (Class II) – are designated for use by bicycles by striping, pavement legends, and signs.
- On-street bike routes (Class III) – are designated by signage for shared bicycle use with vehicles but do not necessarily include any additional pavement width.

Figure 3.15-4 presents the existing and planned bicycle facilities within the study area. As shown in the figure, Class I multi-use paths exist along Nicolaus Road and along natural waterways, such as Auburn Ravine, North Ingram Slough, and South Ingram Slough. Class II bike lanes exist on some of the arterials in the study area, including Ferrari Ranch Road, Joiner Parkway, and Aviation Boulevard.

Pedestrian Network

The pedestrian network in the study area includes sidewalks along the majority of streets within the City of Lincoln, City of Roseville, and City of Rocklin, crosswalks at most study intersections within incorporated cities, and the Class I multi-use trails shown in Figure 3.15-4.

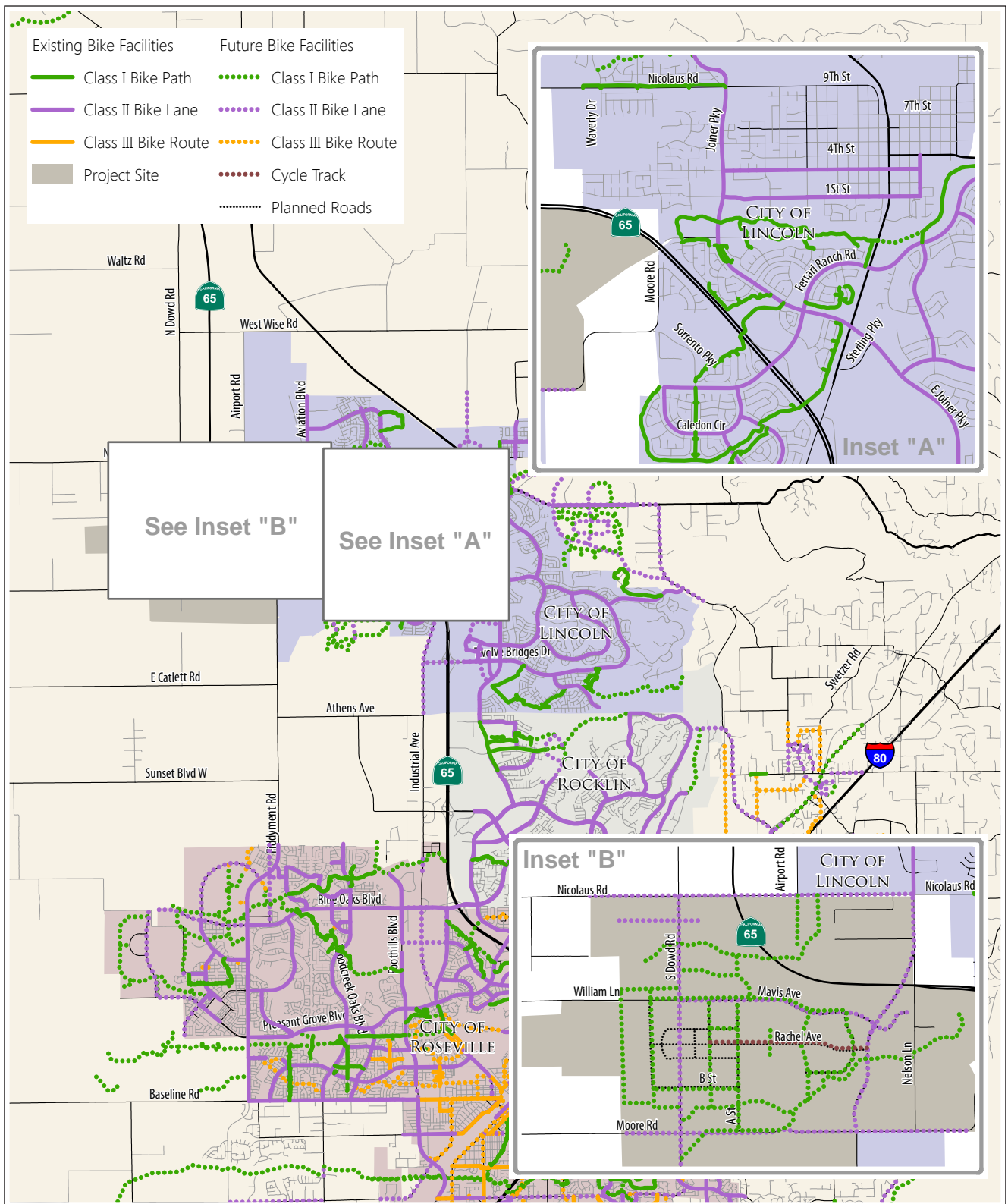
The rural roadways outside the incorporated cities, including Fiddymont Road, Nelson Lane, Moore Road, Dowd Road, and Nicolaus Road do not currently have facilities to support pedestrian activity. Pedestrians are prohibited from using SR 65 in the project study area.

Transit Network

The City of Lincoln provides fixed-route and demand-response public transit service to its residents. The fixed route service consists of two bus routes known as the Downtown Circulator and Lincoln Loop. Both routes operate on one-hour headways (at each stop, buses arrive every hour) and run between 6:30 a.m. and 5:30 p.m. Monday through Friday.⁷

The Downtown Circulator operates in Historic Downtown Lincoln and along Highway 65 with stops near City Hall (Sixth Street), downtown retail centers, Safeway Center, Twelve Bridges Library, Twelve Bridges Medical Center, and Kaiser Permanente. The service begins each morning at the Lincoln Transfer Point at Third and F Streets. The Circulator connects daily with the Lincoln Loop and the Placer County Transit's Lincoln/Rocklin/Sierra College route.

⁷ City of Lincoln, 2015. Hours of Operation. Available: www.ci.lincoln.ca.us/default.aspx?Jpage=15181. Accessed February 5, 2015.



SOURCE: SACOG, 2015

Lincoln Village 5 EIR . 130368

Figure 3.15-4
Existing & Planned Bicycle Network

The Lincoln Loop operates throughout the city with stops at several schools, parks, community centers, and major activity centers. The route begins daily at the southwest corner of Venture and Lakeside Drives. It continues to the Lincoln Transfer Point at Third and F Streets and then to destinations throughout the city.⁸

Lincoln Transit Dial-A-Ride (DAR) is a complimentary curb-to-curb Para-transit service for the general public. DAR operates in the city limits of Lincoln on a reservation basis.⁹

Placer County Transit operates the Lincoln-Rocklin-Sierra College bus route on weekdays and Saturdays. The route begins in downtown Lincoln, makes a stop at the Thunder Valley Casino on Athens Avenue, and continues through Roseville and Rocklin before reaching its destination at Sierra College. The bus route operates on one-hour headways from 6:00 a.m. to 8:00 p.m. Monday through Friday, and from 8:00 a.m. to 6:00 p.m. on Saturdays.

No transit stops are currently located in the vicinity of the project site.

3.15.2 Regulatory Setting

This section provides a discussion of applicable federal, state, and local regulations pertaining to transportation that may be applicable to the proposed project.

Federal

There are no applicable federal regulations related to transportation that directly apply to the proposed project. However, federal regulations relating to the Americans with Disabilities Act (ADA), Title VI, and Environmental Justice relate to transit service.

State

The California Department of Transportation (Caltrans) is responsible for operating and maintaining the state highway system. In the project vicinity, the mainline, ramps, and intersections along SR 65 fall under Caltrans jurisdiction.

State Route 65 Corridor System Management Plan

In June 2009, Caltrans approved a corridor system management plan (CSMP) for SR 65 from I-80 in Roseville to SR 70 in Yuba County south of Marysville. The CSMP is a long-range comprehensive planning document for state highway facilities that includes system management strategies and performance evaluation measures to track the effectiveness of strategies and projects.¹⁰

⁸ Lincoln Transit. Transit Brochure. Available: www.ci.lincoln.ca.us/pagedownloads/Transit%20Brochure%202012%20.pdf. Accessed January 27, 2015.

⁹ City of Lincoln. Dial-A-Ride. Available: www.ci.lincoln.ca.us/default.aspx?Jpage=14060. Accessed February 5, 2015.

¹⁰ California Department of Transportation, 2009. State Route 65 Corridor System Management Plan. Approved June 24, 2009. p. 9

The CSMP documents the current LOS on SR 65 and the future LOS when considering feasible long-term projects. The CSMP also identifies a concept LOS, or the minimum level or quality of operations acceptable, for SR 65 within the 20-year planning period. A deficiency or need for improvement is triggered when the actual LOS falls below the concept LOS. Within the Village 5 study area, the SR 65 CSMP identifies the 20-year concept LOS as LOS E from Blue Oaks Boulevard to Gladding Road, LOS D from Gladding Road to Riosa Road, and LOS E from Riosa Road to the Yuba County Line.¹¹

At the time of the preparation of the SR 65 CSMP, the SR 65 Lincoln Bypass through the study area was not yet open to traffic. The SR 65 Lincoln Bypass opened to traffic in 2012, and SR 65 no longer travels through Downtown Lincoln. The segment from Gladding Road to Riosa Road now exists as part of the Lincoln Bypass, roughly corresponding with Wise Road to Riosa Road. Therefore, this study applies the Concept LOS D identified for Gladding Road to Riosa Road in the CSMP to the Wise Road to Riosa Road segment of SR 65 (a.k.a. the Lincoln Bypass).

Since SR 65 is a Caltrans facility, this study applies the CSMP concept LOS to study highway and freeway segments, ramps, and intersections along SR 65. This analysis applies the City of Lincoln's LOS policy for state highway facilities (policy T-2.4) for ramp terminal intersections within the City of Lincoln.

Caltrans Guide for the Preparation of Traffic Impact Studies

Caltrans' *Guide for the Preparation of Traffic Impact Studies* provides general guidance regarding the preparation of traffic impacts studies for projects that may have an impact on the state highway system. The guidance includes when a traffic study should be prepared and the methodology to use when evaluating operating conditions on the State highway system. This includes requiring that weave segments use the Leisch method to analyze traffic operations.

The *Guide for the Preparation of Traffic Impact Studies* states that where "an existing State highway facility is operating at less than the appropriate target LOS, the existing measure of effectiveness (MOE) should be maintained."¹² Appendix C of the *Guide for the Preparation of Traffic Impact Studies* defines these MOEs, which include density in passenger cars per mile per lane (pcpmp1) for multi-lane highways, freeway segments, and ramps (i.e., merge and diverge segments), average control delay in seconds per vehicle for intersections, and percent time following and average travel speed for two-lane highways. Tables 3.15-1, 3.15-5, 3.15-6, and 3.15-8 provide the relationship between LOS and these MOEs.

¹¹ Ibid., Table 11.

¹² California Department of Transportation, 2002. *Guide for the Preparation of Traffic Impact Studies*. p. 1.

Local

City of Lincoln General Plan

The City of Lincoln General Plan (March 2008) includes the following goals and policies that are relevant to transportation and circulation.

Goal LU-1 To grow in orderly pattern consistent with the economic, social, and environmental needs of Lincoln.

Policies

LU-1.6 Transportation Choices. The City will promote the application of land use layouts and community designs that provide residents with transportation choices to walk, ride bicycles, ride transit services, as well as utilize a vehicle, including neighborhood electric vehicles. The City shall ensure that streets and highways will be available to serve new development by requiring detailed traffic studies and necessary improvements as a part of all major development proposals.

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

Policies

LU-15.18 Trail and Open Space Connections. Each village, and the neighborhoods they contain, shall include trails, bikeways, and open spaces as an integral design component. These facilities shall create a network that links every neighborhood to each other and provide a convenient path to the Village Center.

Goal T-2 Continue to ensure provision and maintenance of a safe and efficient system of streets to meet demands of existing and planned development.

Policies

T-2.2 New Development. The City shall ensure that streets and highways will be available to serve new development by requiring detailed traffic studies and necessary improvements as a part of all major development proposals.

T-2.3 Level of Service for Local Streets and Intersections. Strive to maintain a LOS C at all signalized intersections in the City during the p.m. peak hours. Exceptions to this standard may be considered for intersections where the city determines that the required road improvements are not acceptable (i.e., due to factors such as the cost of improvements exceeding benefits achieved, results are contrary to achieving a pedestrian design, or other factors) or that based upon overriding considerations regarding project benefits, an alternative LOS may be accepted. For purposes of this policy, City intersections along McBean Park Drive between East Avenue and G Street, and G Street between First Street and Seventh Street, are excluded from the LOS C standard, and will operate at a lower LOS.¹³

T-2.4 Level of Service for State Highways. The City shall coordinate with Caltrans in order to strive to maintain a minimum LOS “D” for SR 65 and SR 193.

T-2.5 Monitor Intersections. The City will identify and monitor critical intersections on a periodic basis and construct needed improvements in a timely manner, based upon available resources, if the LOS drops below “C”, unless a lower LOS has been established pursuant to Policy T-2.3. For purposes of this policy, critical intersections exclude those along McBean Park Drive between East Avenue and G Street, and G Street between First Street and Seventh Street.

¹³ Note that G Street is also known as Lincoln Boulevard and/or “Old Highway 65.”

- T-2.9 **SR 65 Bypass.** The City shall support construction of the SR 65 Bypass with interchanges provided at Ferrari Ranch Road, the realigned Nelson Lane, Nicolaus Road and Wise Road. The City will continue to place a very high priority on the construction of the Highway 65 Bypass and to aggressively pursue its funding and construction with Caltrans, SACOG, Placer County Transportation and Planning Agency, appropriate Federal agencies and private sources.
- T-2.11 **Funding by Individual Projects.** The costs for funding interchanges will be allocated to areas of benefit and proportionately borne by individual projects.
- T-2.14 **Developer Requirements.** The City shall require developers to construct at least the first two lanes of any road (including curbs, gutters and sidewalks) within their projects.
- T-2.15 **Dedication of Property.** The City shall require dedication by affected property owners of rights-of-way for all streets and interchanges as part of the project approval process.
- T-2.16 **Traffic Signalization.** The City shall minimize the number, properly space, and interconnect traffic signals to maximize progression and minimize the acceleration/deceleration that produces significantly higher vehicle emissions and noise levels.
- T-2.17 **Minimize Conflicting Traffic Movements.** The City shall require that existing and future arterial improvements be designed to minimize conflicting traffic movements such as turning, curb parking, and frequent stops.
- T-2.19 **Capital Improvements Program.** The City shall implement street widening and other circulation improvements which are related to new development in conjunction with the City's capital improvements program.
- T-2.20 **Coordinate with Neighboring Jurisdictions.** The City will coordinate with neighboring jurisdictions to determine if acceptable and compatible levels of service, consistent with the circulation elements and levels of service set forth in the affected jurisdiction's general plan, on the roadways that extend into other jurisdictions can be achieved. The City will continue to participate in the South Placer Regional Transportation Authority (SPRTA) as part of an effort to develop interagency funding mechanisms to construct mutually acceptable regional transportation improvements. The City will require project developers to be responsible for a project's fair share of all feasible physical improvements identified as part of the interagency funding program.
- T-2.21 **Multi-Jurisdictional Roadways.** As a specific example of implementation of Policy T-2.20 and without limiting its application into other roadways, Dowd Road has been identified as an important north/south roadway that will benefit the transportation network of several South Placer jurisdictions and will, therefore, be a regional roadway that will extend into other jurisdictions. The City will support the development of this roadway as a regional improvement and will coordinate its design and improvements with the County of Placer and the City of Roseville. The City, during the review of future specific plans that may affect the Dowd Road alignment and design, will coordinate with and participate with the County and the City of Roseville, and to plan and implement Dowd Road as a regional improvement. The City will require the projects to fund or be responsible for the project's fair share of all feasible physical improvements identified as part of the City or as part of an interagency transportation plan and/or funding program to develop this regional roadway, provided a funding mechanism for payments and improvements is in place at the time that a specific plan or project land use application or subdivision approval affecting Dowd Road is considered by the City.

Goal T-3 Provide appropriate parking for existing and future development in the City.

Policies

- T-3.2 **Adequate Off-Street Parking.** The City shall require the provision of adequate off-street parking in conjunction with new development. Parking shall be located convenient to new development and shall be easily accessible from the street system.

Goal T-4 To provide and maintain viable alternate modes of transportation for the community that will relieve congestion and improve environmental conditions.

Policies

- T-4.3 **Promote Public Transit.** The City shall promote the use of public transit through development conditions requiring park-and-ride lots, bus turnouts and passenger shelters along major streets adjacent to appropriate land uses.
- T-4.7 **Electric Golf Carts.** Through the use of Golf Transportation Plans, the City shall support the use of electric golf carts within the City, and providing the necessary infrastructure to support them, when feasible.
- T-4.8 **Neighborhood Electric Vehicles.** Through the implementation of the Neighborhood Electric Vehicle Plan, the City shall support the use of Neighborhood Electrical Vehicles (NEV) and similar vehicles by providing where possible for street classifications that provide for their use and ensure connectivity throughout the City.

Goal T-5 To provide an interconnected system of bikeways that would provide users with direct linkages at a city and regional level.

Policies

- T-5.1 **Develop Bike Lanes.** The City shall require bike lanes in the design and construction of major new street and highway improvements, and to establish bike lanes on those city streets wide enough to accommodate bicycles safely.
- T-5.2 **Promote Regional Bikeway.** The City shall promote and support the development of local and regional bikeway links as established in the City Bikeways Master Plan and the County Bikeway Master Plan.
- T-5.3 **Promote Bicycle Safety.** The City shall improve bicycle safety by developing routes that will minimize conflicts with vehicles and pedestrians.
- T-5.4 **Bicycle and Pedestrian Crossings.** The City shall provide pedestrian/bicycle crossings at appropriate intervals along new roadways that will adequately serve new large-scale commercial office, industrial development, and residential development as well as parks and schools.
- T-5.6 **Trails and Pathways to Retail and Employment Centers.** The City shall promote pedestrian convenience and safety through development conditions requiring sidewalks, walking paths, or hiking trails that connect residential areas with commercial, shopping, and employment centers. Where feasible, trails will be looped and interconnected.
- T-5.7 **Trails and Pathways along Creeks and Wetland Areas.** The City shall encourage the development of trails and pathways along the edges of creeks and wetland areas. Where feasible, trails will be looped and interconnected.
- T-5.9 **Pedestrian Access.** The City shall encourage specific plans and development plans to include design of pedestrian access that enables residents to walk from their homes to places of work, recreation and shopping.

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.

Policies

- 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.

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.

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.

The relationship of these 2050 General Plan policies to the V5SP is included in Chapter 5, General Plan Consistency.

City of Lincoln Public Facilities Element Fee Program

The City of Lincoln has adopted a Public Facilities Element Fee Program (PFE) which was established to provide a nexus between the projected new development in the City and the new capital facilities required to serve new development within the City's 1988 General Plan boundary as well as the proposed Village 7 and Lincoln 270 developments. The program serves as a basis for requiring development impact fees in accordance with the provisions of Government Code Section 66000 et seq. The City of Lincoln being a full service city has established the PFE to address the capital facilities required in a wide range of service areas: wastewater, drainage, water, transportation, police, fire, administration, solid waste, as well as parks and recreational facilities. As part of the program the City maintains a master list of capital improvements in each category that are needed to service new development. The cost of improvements are funded by the collection of fees from new development based upon an equivalent dwelling units basis which represents each project's share in the capital facilities needed to serve development. In some instances, projects may be required to build one of the improvements from the Master Improvement List in which case they are able to receive credits against the fee they would have otherwise been required to pay. The City's Public Facilities Element (PFE) contains the list of specific projects to be paid for by the fee program. The City is currently in the process of updating the PFE fee program and the list of specific projects.

City of Lincoln 2012 Bicycle Transportation Plan Update

The City of Lincoln 2012 Bicycle Transportation Plan Update includes the following policies related to bicycle circulation in new development areas that are relevant to this analysis.

Goal 1 **Provide a well-connected bikeway system within the City of Lincoln to improve the quality of life for all residents and visitors.**

Policies

- 1.5 Provide bicycle connections that allow for regional bike travel to and from the City of Lincoln.
- 1.6 Integrate bicycle planning with other community planning, including land use and transportation planning.

Goal 2 **Include bikeway facilities in all appropriate development projects to facilitate on-site circulation for bicycle and pedestrian travel, on-site bicycle parking, and connections to the proposed system of golf cart and NEV facilities.**

Policies

- 2.1 Require new development projects to reserve the right-of-way for multi-use trails shown in the proposed system of bikeways.
- 2.3 Provide pedestrian/bicycle crossings at appropriate intervals along new roadways that will adequately serve new large-scale commercial office, industrial development, and residential development.

Sections 5.3 and 5.4 of the Specific Plan describe the bicycle related planning that has been integrated into the proposed project, consistent with policies 1.5, 1.6, 2.1, and 2.3.

Placer County General Plan

The Placer County General Plan (2013) includes the following policies related to transportation and circulation that are relevant to this analysis.

Goal 3.A **To provide for the long-range planning and development of the County's roadway system to ensure the safe and efficient movement of people and goods.**

Policies

- 3.A.7 The County shall develop and manage its roadway system to maintain the following minimum levels of service (LOS), or as otherwise specified in a community or specific plan:
- LOS "C" on rural roadways, except within one-half mile of state highways where the standard shall be LOS "D".
 - LOS "C" on urban/suburban roadways except within one-half mile of state highways where the standard shall be LOS "D".
 - An LOS no worse than specified in the Placer County Congestion Management Program (CMP) for the state highway system.

Temporary slippage in LOS C may be acceptable at specific locations until adequate funding has been collected for the construction of programmed improvements

The County may allow exceptions to these levels of service standards where it finds that the improvements or other measures required to achieve the LOS standards are unacceptable based on established criteria. In allowing any exception to the standards, the County shall consider the following factors:

- The number of hours per day that the intersection or roadway segment would operate at conditions worse than the standard.
- The ability of the required improvement to significantly reduce peak hour delay and improve traffic operations.
- The right-of-way needs and the physical impacts on surrounding properties.
- The visual aesthetics of the required improvement and its impact on community identity and character.
- Environmental impacts including air quality and noise impacts.
- Construction and right-of-way acquisition costs.
- The impacts on general safety.

- The impacts of the required construction phasing and traffic maintenance.
- The impacts of quality of life as perceived by residents.
- Consideration of other environmental, social, or economic factors on which the County may base findings to allow an exceedance of the standards.

Exceptions to the standards will only be allowed after all feasible measures and options are explored, including alternative forms of transportation.

3.A.9 The County shall work with neighboring jurisdictions to provide acceptable and compatible levels of service and joint funding on the roadways that may occur on the circulation network in the Cities and unincorporated area.

3.A.12 The County shall require an analysis of the effects of traffic from all land development projects. Each such project shall construct or fund improvements necessary to mitigate the effects of traffic from the project. Such improvements may include a fair share of improvements that provide benefits to others.

Goal 3.D To provide a safe, comprehensive, and integrated system of facilities for non-motorized transportation.

Policies

3.D.2 The County shall work with neighboring jurisdictions to coordinate planning and development of the County's bikeways and multi-purpose trails with those of neighboring jurisdictions.

The traffic impact analysis and the proposed mitigation measures presented in Section 3.15.3 consider these policies for Placer County roadway facilities.

Sunset Industrial Area Plan

The Sunset Industrial Area Plan refines and implements the goals and policies of the Placer County General Plan for the Sunset Industrial Area.¹⁴ The Plan was originally adopted in 1994, and as of the preparation of this EIR, the Sunset Industrial Area Plan is in the process of being updated.¹⁵

The Sunset Industrial Area Plan includes the following policies related to transportation and circulation that are relevant to this analysis.

Goal 2.B To establish a safe, efficient and adequate transportation system to serve the needs of the Sunset Industrial Area Plan.

Policies

2.B.1 Maintain a level "C" service standard on Plan Area roadways. Exceptions to level of service "C" will be allowed at locations within one-half mile of state highways where the standard shall be level of service "D". Other exceptions may be appropriate on a case-by-case basis where specific factors shall be considered (see policy 3.A.7 of the Countywide General Plan – Policy Document).

2.B.3 Determine traffic and circulation impacts and identify appropriate mitigation measures for the proposed land development projects.

¹⁴ Placer County. Sunset Industrial Area Plan. Available: www.placer.ca.gov/departments/communitydevelopment/planning/documentlibrary/complans/sunset-industrial-area-cp. Accessed February 5, 2015.

¹⁵ Ibid.

As an implementation plan of the Placer County General Plan, the traffic impact analysis and the proposed mitigation measures presented in Section 3.15.3 consider these policies for Placer County roadway facilities within the Sunset Industrial Area Plan.

City of Roseville General Plan 2025

The City of Roseville General Plan 2025 includes the following policies related to transportation and circulation that are relevant to this analysis.

Level of Service

Goal 1: Maintain an adequate level of transportation service for all of Roseville's residents and employees through a balanced transportation system, which considers automobiles, transit, bicyclists, and pedestrians.

Policies

- 1 Maintain a level of service (LOS) "C" standard at a minimum of 70 percent of all signalized intersections and roadway segments in the City during the p.m. peak hours. Exceptions to the LOS "C" standard may be considered for intersections where the City finds that the required improvements are unacceptable based on established criteria identified in the implementation measures. In addition, Pedestrian Districts may be exempted from the LOS standard.

Table III-3 in the City of Roseville General Plan identifies 39 signalized intersections that are expected to operate at LOS D, E, or F under 2025 Conditions. The remaining 165 signalized intersections, or 80.9 percent, are expected to operate at LOS C or better.¹⁶ Therefore, this is within the City's LOS policy.

Two of the 39 signalized intersections that are expected to exceed the LOS C policy are study intersections in this analysis: Pleasant Grove Boulevard/Fiddymont Road (#20) and Baseline Road/Fiddymont Road (#21). Pleasant Grove Boulevard/Fiddymont Road is anticipated to operate at LOS E during the p.m. peak hour under 2025 Conditions, while Baseline Road/Fiddymont Road is anticipated to operate at LOS F during the p.m. peak hour under 2025 Conditions.

Similar to the City of Lincoln's LOS policy, the City of Roseville's LOS policy applies to signalized intersections during the p.m. peak hour. Like Lincoln's LOS policy, this study applies this LOS C standard to all City of Roseville intersections during both the a.m. and p.m. peak hours since the City of Roseville does not have a LOS policy for unsignalized intersections or other time periods (i.e., a.m. peak hour). This approach is consistent with other environmental documents prepared for the City of Roseville.

The traffic impact analysis and the proposed mitigation measures presented in Section 3.15.3 consider this policy and the data presented in Table III-3 for City of Roseville intersections.

South Placer Regional Transportation Authority Fee Program

Member agencies of the South Placer Regional Transportation Authority (SPRTA) include Placer County, the City of Lincoln, the City of Roseville, and the City of Rocklin. The SPRTA was

¹⁶ City of Roseville, 2010. City of Roseville General Plan 2025. Adopted May 5, 2010. Table III-3.

formed in January 2002 and adopted a fee program later that year. The SPRTA fee program area is divided into 10 fee districts, with fees calculated on a nexus-basis via the South Placer traffic model. Fees are assessed on all development, including residential, commercial, and industrial.

3.15.3 Analysis, Impacts, and Mitigation

The traffic impact analysis and proposed mitigation measures presented in this section are developed within the framework of the applicable regulations pertaining to transportation described in the Regulatory Setting section. This includes the City of Lincoln General Plan policies as well as City of Roseville and Placer County general plan policies, Caltrans criteria, and local and regional traffic impact analysis models to ensure consistency with local and regional transportation and circulation planning.

Significance Criteria

The following describes the significance criteria used to identify project-specific and cumulatively significant impacts to the transportation and circulation system. The significance criteria are based on the applicable regulations described in the Regulatory Setting section.

Traffic Conditions

The following significance criteria related to traffic conditions reflect whether the project would conflict with applicable policies related to the performance of the vehicular circulation system.¹⁷ These criteria take into account the applicable vehicle LOS policies and standards for the City of Lincoln, Caltrans, Placer County, and City of Roseville.

Intersections

Impacts to traffic conditions at intersections are considered significant if the proposed project would:

- Cause an intersection operating at an acceptable LOS (without the project) to operate at an unacceptable LOS (with the project);
- Increase the average vehicle delay for a City of Lincoln, County of Placer, or City of Roseville study intersection by five seconds or more that is already (or projected to be) operating at an unacceptable LOS (without project). This is consistent with previous environmental studies adopted by the City of Lincoln;¹⁸
- Increase the average vehicle delay for a Caltrans study intersection by one second or more that is already (or projected to be) operating at an unacceptable LOS (without project), as prescribed by Caltrans' *Guide for the Preparation of Traffic Impact Studies*.

¹⁷ Association of Environmental Professionals, 2014. 2014 CEQA Statute and Guidelines. p. 283. Sample Question XVI.a.

¹⁸ City of Lincoln, 2009. Draft Environmental Impact Report for the Village 7 Specific Plan Project. June 2009. p. 4.3-30.

In addition to consistency with previously adopted environmental studies, the “five second” threshold identified above allows for daily fluctuation in traffic volumes along major roadways, as documented in *Variability in Traffic Monitoring Data*.¹⁹ Peak hour traffic volumes are not exactly identical from day-to-day. This fluctuation in traffic coupled with variable travel conditions, such as weather or collisions, results in variations in delay from day-to-day. The “five second” delay threshold is intended to account for these normal variations in traffic conditions.

For City of Lincoln intersections, LOS A-C is considered acceptable, while LOS D-F is considered unacceptable per Lincoln General Plan policy T-2.3. This policy also states that intersections along Lincoln Boulevard between First Street and Seventh Street (including study intersections 29-31) are excluded from the LOS C standard.

As stated previously, this study applies this policy to all intersections during both the a.m. and p.m. peak hour, consistent with previous traffic analyses prepared for the City of Lincoln. Therefore, this study treats LOS A-C as acceptable and LOS D-F as unacceptable at all City of Lincoln intersections during both the a.m. and p.m. peak hours.

For County of Placer intersections, LOS A-C is considered acceptable, while LOS D-F is considered unacceptable per Placer County General Plan policy 3.A.7 and Sunset Industrial Area Plan policy 2.B.1.

The City of Roseville General Plan requires a minimum of 70 percent of signalized intersections in the city to operate at LOS A-C during the p.m. peak hour. As stated previously, this study applies this policy to all intersections during both the a.m. and p.m. peak hour, consistent with previous environmental documents prepared for the City of Roseville.

The City of Roseville General Plan identifies two of the study intersections in this analysis as intersections anticipated to operate at LOS D-F: Pleasant Grove Boulevard/Fiddymment Road (#20) (LOS E) and Baseline Road/Fiddymment Road (#21) (LOS F). Therefore, for purposes of this study, the following LOS standards are used for City of Roseville intersections:

- Blue Oaks Boulevard/Fiddymment Road (#19): LOS A-C is considered acceptable, while LOS D-F is considered unacceptable.
- Pleasant Grove Boulevard/Fiddymment Road (#20): LOS A-E is considered acceptable, while LOS F is considered unacceptable.
- Baseline Road/Fiddymment Road (#21): LOS A-F is considered acceptable.

At Caltrans intersections, the SR 65 CSMP establishes a concept LOS E for SR 65 through most of the study area, with the exception of between Wise Road and Riosa Road, which has a concept

¹⁹ Wright, Tommy, Patricia Hu, Jennifer Young, and An Lu, 1997. *Variability in Traffic Monitoring Data: Final Summary Report*. August 1997. Table 5, p. 10.

LOS D. As previously stated, the City of Lincoln General Plan policy T-2.4 states that the City shall coordinate with Caltrans to strive to maintain a minimum of LOS D conditions for SR 65.

Based on these policies, LOS A-D is considered acceptable at the ramp intersections at City of Lincoln roadways, while LOS E and F is considered unacceptable consistent with the Lincoln General Plan policy. At intersections along SR 65 in unincorporated Placer County, LOS A-E is considered acceptable, while LOS F is considered unacceptable per the SR 65 CSMP.

Roadway Facilities

Impacts to traffic conditions on roadway segments are considered significant if the proposed project would:

- Cause a roadway segment operating at an acceptable LOS (without the project) to operate at an unacceptable LOS (with the project); or
- Increase the volume to capacity ratio by 0.01 or more for a roadway segment that is already (or projected to be) operating at an unacceptable LOS (without project). This is consistent with previous environmental studies adopted by the City of Lincoln.²⁰

All study roadway segments are located within unincorporated Placer County. Per Placer County General Plan policy 3.A.7 and Sunset Industrial Area Plan policy 2.B.1, LOS A-C is considered acceptable, while LOS D-F is considered unacceptable.

Highway & Freeway Facilities

Impacts to traffic conditions on highway and freeway facilities are considered significant if the proposed project would:

- Cause a highway or freeway facility operating at an acceptable LOS (without the project) to operate at an unacceptable LOS (with the project); or
- Increase the traffic volume by 60 or more vehicles during the peak hour for a highway or freeway facility that is already (or projected to be) operating at an unacceptable LOS (without project)

As described in Section 3.15.2, LOS E or better is considered acceptable on SR 65 from Blue Oaks Boulevard to Wise Road and from Riosa Road to the Yuba County line, while LOS F is unacceptable. On SR 65 between Wise Road and Riosa Road, LOS D or better is considered acceptable while LOS E or F is considered unacceptable.

Since SR 65 is a Caltrans facility, this study applies the CSMP concept LOS to study highway and freeway segments along SR 65 instead of local LOS policies.

²⁰ City of Lincoln, 2009. Draft Environmental Impact Report for the Village 7 Specific Plan Project. June 2009. p. 4.3-30.

The SR 65 CSMP also notes that “no further degradation of service from existing “F” is acceptable, as indicated by delay performance measurement.”²¹ For freeway facilities, the applicable performance standard is density, which is expressed in passenger cars per hour per mile per lane. Since density values are rounded to the nearest integer value for reporting purposes, a minimum density increase of 0.5 would, by definition, cause an increase in the reported density measurement. Density is not reported for LOS F conditions, but is reported for LOS A through E conditions. Through an iterative process, it was determined that a 60-vehicle increase to a four-lane freeway operating at LOS E would approximately correspond to a 0.5-increase in density. Accordingly, an increase of 60 or more vehicles during a peak hour to a facility operating at LOS F is the threshold of significance used in this study.

Bicycle and Pedestrian Facilities

The following significance criteria related to bicycle and pedestrian facilities reflect whether the project would conflict with adopted plans, policies, or programs regarding bicycle and pedestrian facilities.²²

Impacts to bicycle and pedestrian facilities are considered significant if the proposed project would:

- Disrupt or interfere with existing or planned bicycle and pedestrian facilities
- Create inconsistencies with adopted pedestrian or bicycle system plans, guidelines, policies, or standards.

Transit Facilities

The following significance criteria related to transit facilities reflect whether the project would conflict with adopted plans, policies, or programs regarding transit facilities.²³

Impacts to the transit system are considered significant if the proposed project would:

- Create a demand for mass transit services above the capacity which is provided or planned.
- Interfere with existing or planned transit facilities.

Emergency Vehicle Access

Impacts to transportation and circulation are considered significant if the proposed project would result in inadequate emergency access.²⁴

Construction Impacts

Impacts to the transportation and circulation system are considered significant if construction activities for the proposed project would create a prolonged impact on travel conditions or

²¹ California Department of Transportation, 2009. State Route 65 Corridor System Management Plan. Approved June 24, 2009. Table 11.

²² Association of Environmental Professionals, 2014. 2014 CEQA Statute and Guidelines. p. 283. Sample Question XVI.f.

²³ Ibid.

²⁴ Ibid., Sample Question XVI.e.

facilities, including inadequate emergency vehicle access, traffic hazards to bicyclists and pedestrians, damage to roadbeds, or substantial truck traffic on roadways not designated as truck routes.

Project Information

Chapter 2 of this Draft EIR provides a full description of the proposed project. The following section re-states the relevant project characteristics for the transportation and circulation analysis, including the proposed land uses and circulation and mobility information.

Proposed Land Uses

As described in Section 2.3.6 and Chapter 4 of the V5SP, buildout of the proposed project is estimated to accommodate development of approximately 8,206 dwelling units and approximately 4.6 million square feet of total employment-generating and commercial land uses (see **Table 3.15-11**). **Figure 3.15-5** shows the land use plan for the proposed project.

Circulation and Mobility

Section 2.3.6 and Figures 3.15-6 and 3.15-7 present the circulation and mobility plans, respectively, for the proposed project.

Roads

As described in Section 2.3.6 and in Chapter 5 of the V5SP, roads within the proposed project would consist of a mixture of larger, four- to six- lane arterials along the borders of the site, along with a couple of east-west arterials passing through the middle of the site. Major east-west arterials would include Nicolaus Road and Moore Road along the northern and southern edges, respectively, and Mavis Avenue and Rachel Avenue would traverse the site in an east-west fashion through the center of the site. SR 65 would pass from the east to the central north of the site, primarily through the northeastern corner of the site. Major north-south arterials would include Nelson Lane to the east and Dowd Road to the west. Nelson Lane is proposed to consist of six lanes (three lanes in each direction). Nicolaus Road would have six lanes between Dowd Road and Airport Road, and four lanes (two lanes in each direction) west of Dowd Road and east of Airport Road. South Dowd Road would consist of four lanes. The majority of collector streets would consist of two lanes. However, portions of Mavis Avenue along the frontage of the Regional Sports Park and commercial properties (west of Nelson Lane) would consist of four and six lanes, respectively. Several collector streets, predominantly two-lane, would mainly connect within the central and southwestern portions of the site, bounded by the two ravines and SR 65. Additionally, Nicolaus Road and Nelson Lane would both have a SR 65 interchange. Fiddymont Road would provide access from the south of the Plan Area, while Moore Road and Ferrari Ranch Road would offer access from the east of the Plan Area.

**TABLE 3.15-11.
VILLAGE 5 SPECIFIC PLAN LAND USE SUMMARY**

ABBR.	LAND USE DESIGNATION	GROSS ACRES	NET ACRES ¹	DENSITY RANGE	AVE. DU/AC.	F.A.R. TARGET ²	RES. UNITS ³	RES. % OF DU	NON-RES S.F.	NON-RES % S.F.
Residential Uses										
VRR	Village Rural Residential	759.1	652.4	0.2-0.5	0.5		320	3.9%	N/A	
VCE	Village Country Estate Residential	453.3	435.9	0.6-2.9	2.0		869	10.6%	N/A	
VLDR	Village Low Density Residential	569.6	539.4	3.0-5.9	5.0		2,690 ⁴	32.8%	N/A	
VMDR	Village Medium Density Residential	441.6	405.3	6.0-12.9	7.0		2,830 ⁵	34.5%	N/A	
VHDR	Village High Density Residential	68.7	68.7	13.0-30.0	21.0		1,441	17.6%	N/A	
	SUBTOTAL	2,292.3					8,150	99.3%		
Commercial Uses										
VMU	Village Mixed Use	7.5	7.5		7.5	0.35	56	0.7%	114,300	2.5%
VC	Village Center	33.9	29.9			0.35	N/A	0.0%	456,400	10.0%
VCOMM	Village Commercial	196.3	176.2			0.25	N/A		1,918,300	41.9%
VOC	Village Office/Commercial	159.9	129.9			0.30	N/A		1,696,800	37.0%
VBP	Village Business and Professional	42.8	36.4			0.25	N/A		395,800	8.6%
	SUBTOTAL	440.4						0.7%		100%
Parks and Open Space										
VPARK	Park	149.2	127.0							
VLP	Linear Park	19.5	18.6							
VOSA	Ag/Preserve	343.5	343.5							
VOSP	Open Space Preserve	841.1	841.1							
VOSN	Natural Open Space	218.1	202.0							
	SUBTOTAL	1,571.4								
Public Uses										
PQP	Public/Quasi-Public	13.6	13.0							
P/QP-ES	Elementary School	35.9	35.5							
P/QP-MS	Middle School	20.0	20.0							
P/QP-HS	High School	48.7	48.7							
	SUBTOTAL	118.2								

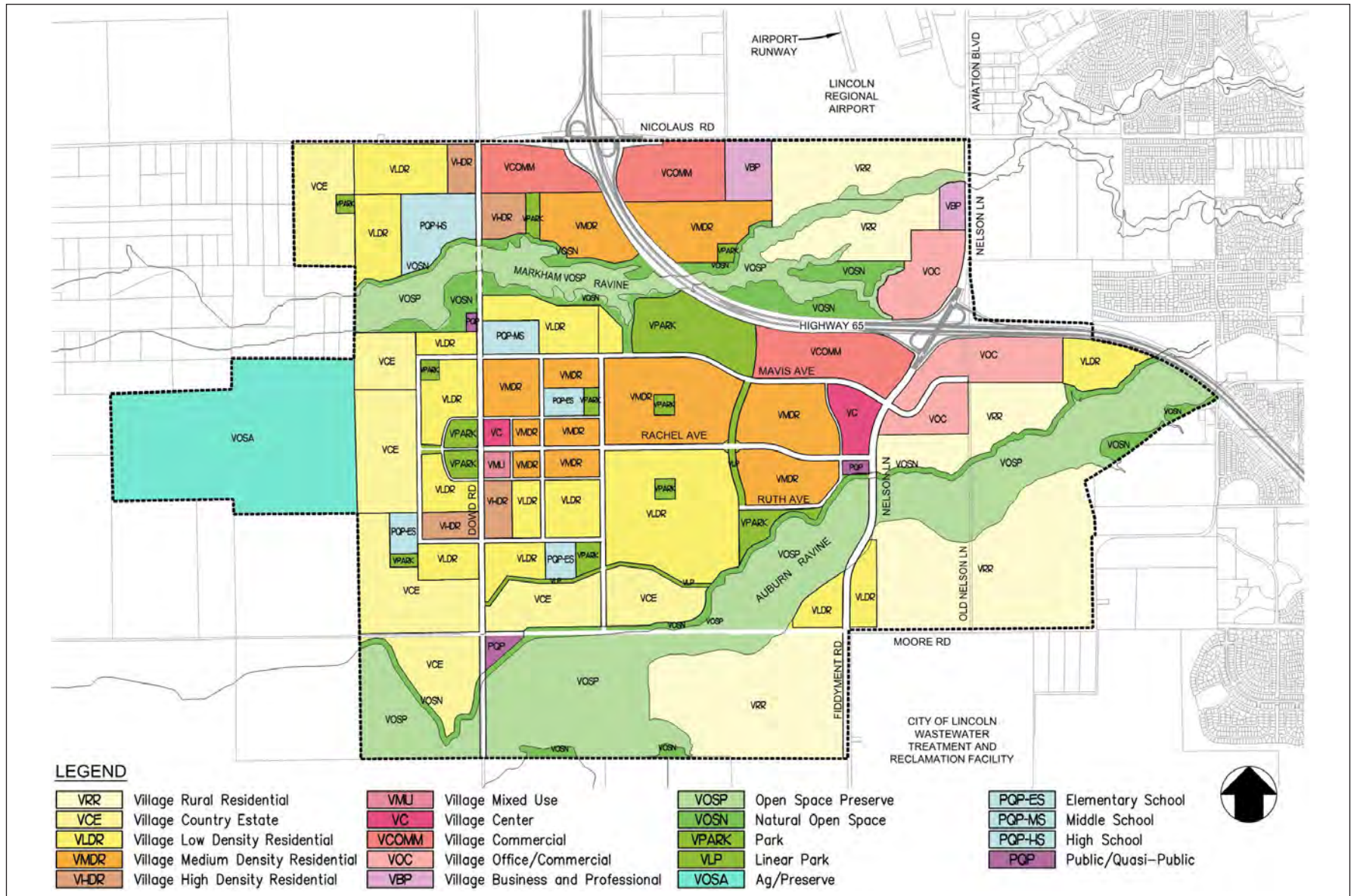
**TABLE 3.15-11.
VILLAGE 5 SPECIFIC PLAN LAND USE SUMMARY**

ABBR.	LAND USE DESIGNATION	GROSS ACRES	NET ACRES¹	DENSITY RANGE	AVE. DU/AC.	F.A.R. TARGET²	RES. UNITS³	RES. % OF DU	NON-RES S.F.	NON-RES % S.F.
ROW	Right of Way	225.6	225.6							
HWY	SR 65	139.0	139.0							
	SUBTOTAL	364.6								
	TOTAL	4,786.9	4,495.6				8,206⁶	100.0%	4,581,600	100.0%

NOTES:

1. Net Acreage shown excludes detention basins and airport required open land, based on the Placer County Airport Land Use Compatibility Plan, February 26, 2014. Detailed calculations on a parcel by parcel basis are provided in the V5SPAppendix B.
2. The FAR factors are targets and may vary based on the ranges established for each zone. VMU FAR is based on GP Table 4-3; COMM FAR assumes no internal public roadways; O/C FAR assumes mix of two and three story buildings; BP FAR assumes single story buildings.
3. Total dwelling units for each land use type is based on the net acreages on a parcel by parcel basis, as provided in Table B-1 of Appendix B Planning Area Detail, and multiplied by the average density factor. The densities shown are an average and may vary based on the ranges established for each residential zone.
4. 771 of the VLDR units would be designated as age-qualified.
5. 229 of the VMDR units would be designated as age-qualified.
6. Up to 1,000 units of VLDR and VMDR would be developed as age-qualified units.

SOURCE: City of Lincoln, 2015. Lincoln Village 5 Specific Plan. August 7, 2015.



SOURCE: Cunningham Engineering, 2015

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Figure 3.15-5
Land Use Plan

Several bridges would be constructed or upgraded to connect the Plan Area to adjacent areas and provide a complete roadway network within and through the Plan Area. In some instances, new bridge structures may be necessary to replace existing, outdated structures. New bridges may also be constructed alongside existing bridges that would remain. Buildout of the Plan Area roadway network would result in the construction of new or alteration of existing vehicular bridges, including:

- A new six-lane bridge on Nelson Lane across Auburn Ravine;
- An expanded six-lane bridge on Nelson Lane across Markham Ravine;
- An expanded four-lane bridge on Dowd Road across Markham Ravine;
- An expanded four-lane bridge on Dowd Road across Auburn Ravine; and
- Replacement of the two-lane bridge on Moore Road across Auburn Ravine.

Additionally, a new, non-vehicular trail would be constructed on top of the existing earthen berm across Markham Ravine between Dowd Road and SR 65. The new trail would accommodate bicycle and pedestrian travel and provide a north-south connection between the northern part of the Plan Area, the Regional Sports Park, and a Class I trail that would parallel Auburn Ravine on its north side.

Figure 3.15-6 presents the roadway circulation plan for the proposed project.

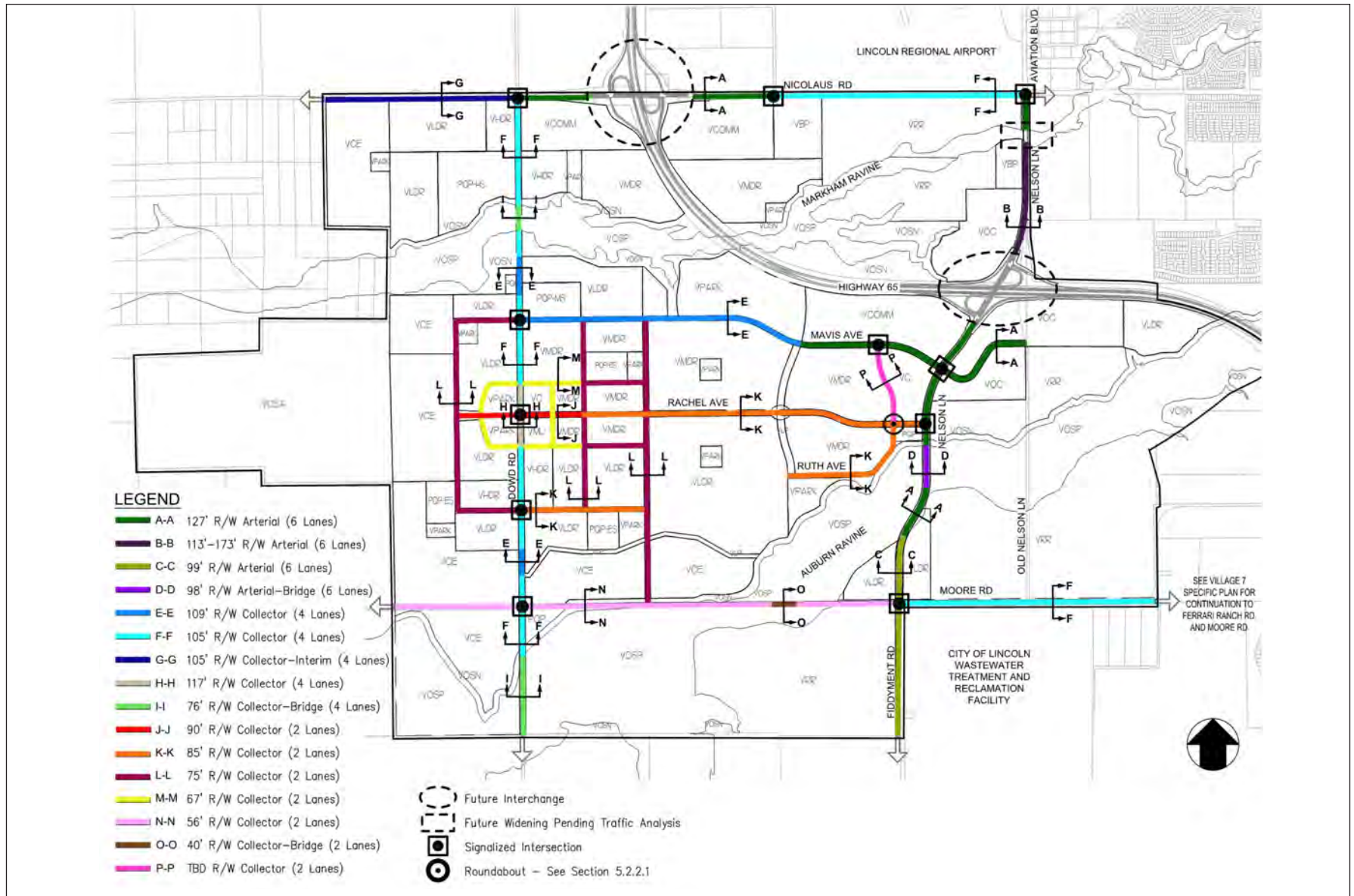
Bikeway/Trail System

A series of Class I and Class II bicycle paths would be built around most of the perimeter and cutting through the Plan Area in several locations, as indicated in **Figure 3.15-7**. The Class I bikeway system would provide off-street connectivity within the Plan Area for both cyclists and pedestrians. In addition, the paths would accommodate emergency and maintenance vehicle access to open space areas. Class I paths would be primarily situated along Auburn and Markham Ravines. Some of these trails may include grade-separated crossings via tunnels or bridges.

Specifically, three pedestrian/bicycle tunnels are proposed along a north-south Class I bikeway that connects Mavis Avenue and Ruth Avenue. Class II bike lanes (alongside vehicular traffic on-street) would be provided on expected bicycle commute corridors (i.e., Nelson Lane, Nicolaus Road, and South Dowd Road) and other key locations within the heart of the Plan Area. In the vast majority of instances, bicyclists would share the lane with NEVs.

Analysis Methods

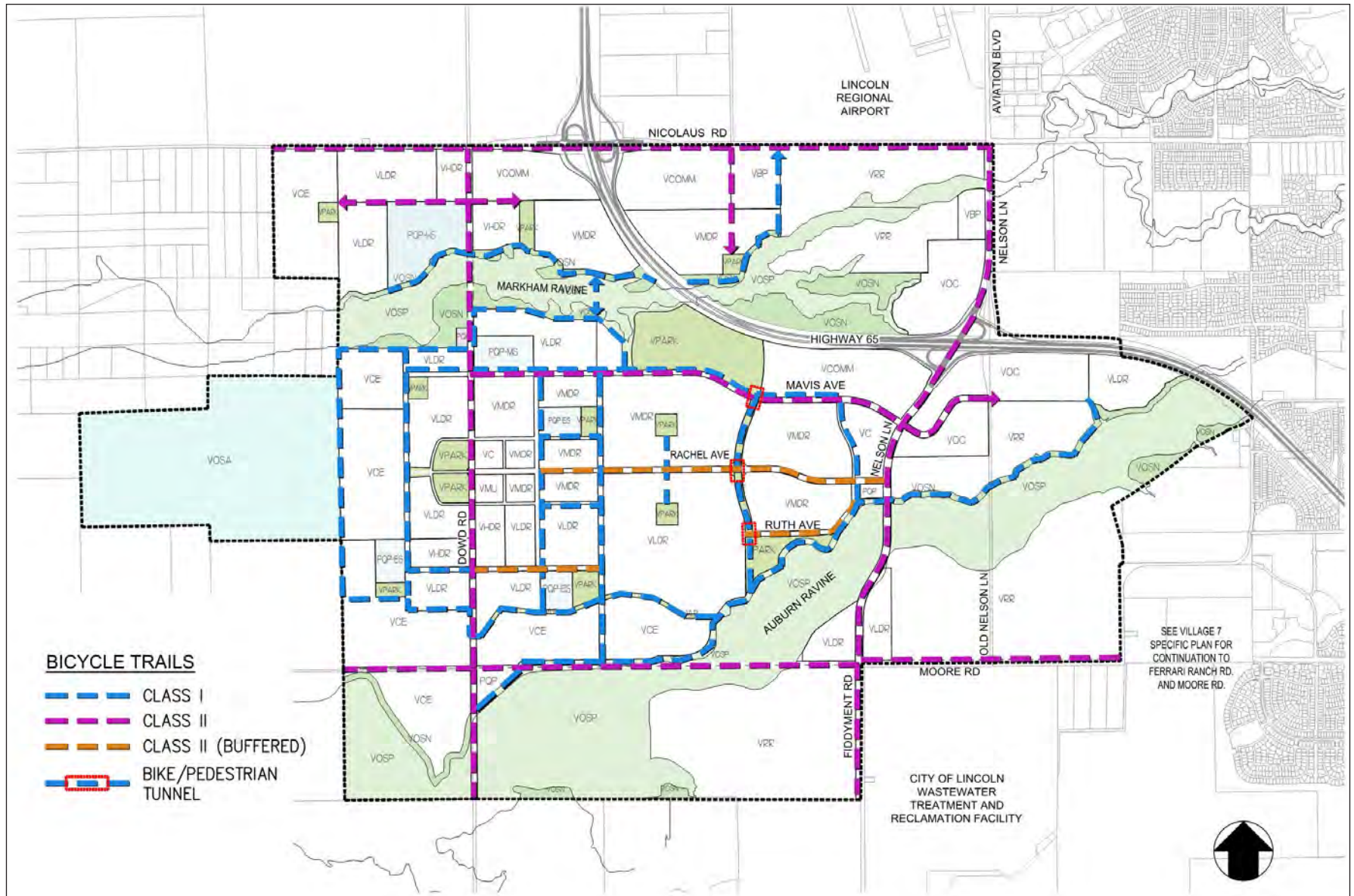
This section presents a topic-by-topic discussion of the key methods that this analysis applies to estimate the proposed project's travel characteristics and to assess the proposed project's impacts on the transportation and circulation system.



SOURCE: Cunningham Engineering, 2015

Lincoln Village 5 EIR . 130368

Figure 3.15-6
Circulation Plan



SOURCE: Cunningham Engineering, 2015

Lincoln Village 5 EIR . 130368

Figure 3.15-7
Mobility Plan

This section begins by presenting the methodology for estimating the expected traffic characteristics of the proposed project, followed by an analysis of the existing plus project conditions. This section also includes an analysis of the proposed project's incremental contribution to cumulative traffic conditions within the study area.

For bicycle, pedestrian, and transit facilities, emergency vehicle access, and project access and internal circulation, this analysis relies upon the components in V5SP and engineering judgment to determine whether the proposed project would cause an impact.

Construction-related impacts are discussed in further detail in Section 3.15.3 under Impact 3.15-13.

Project Traffic Characteristics

Traffic generated by the proposed project is assigned to the roadway network using the following three-step process:

1. Trip Generation – estimates the amount of traffic generated by the proposed plans based on the planned land uses
2. Trip Distribution – distributes project trips based on origins and destinations in the region
3. Trip Assignment – assigns project trips to the roadway network based on the proposed project's trip generation and distribution

This study uses the 2008 Placer County travel demand forecasting (TDF) model for this three-step process. This TDF model uses land use inputs, trip rates, and other traffic engineering inputs to estimate travel demand. The model's roadway network includes major roadways, including freeways, highways, arterials, and collectors.

This study uses a version of the 2008 Placer County TDF model that has been updated to include the SR 65 Lincoln Bypass in the Base Year model, as well as updated land uses to reflect recent land development.

For the existing plus project scenario, the arterial and collector roadway network for the proposed project was added to the Placer County TDF model roadway network to reflect the build out of the proposed project.

Trip Generation

The Placer County TDF model estimates the traffic generated by the proposed project based on the land uses identified in the V5SP. The land uses for the proposed project are added to the base year model land uses to create an "existing plus project" land use total. Using the land uses identified in the V5SP, the Placer County TDF model uses locally valid trip generation rates to estimate the total amount of traffic that would occur with the proposed project.

Trip Distribution

Given the size of the proposed project in terms of land uses and the extent of the Plan Area, this study also uses the Placer County TDF model to estimate the distribution of proposed project trips.

The TDF model accounts for every trip from its origin to its destination. The model identifies the distribution of trips according to these origin-destination pairs, which are based on the interaction between complimentary land uses. For example, the residential land uses within the model generate trips that travel from dwelling units to employment areas, commercial and retail establishments, and educational uses both within and outside the proposed project site. Similarly, the commercial and employment uses within the model attract trips from residential neighborhoods and generate trips between non-residential uses.

The model also accounts for the distance between these complimentary land uses. For example, the model is more likely to assign a shopping trip from one's home to a retail destination that is a shorter time distance away than one that is a longer time distance.

Using these principles of the interaction and proximity of complimentary land uses, the Placer County TDF model estimates the distribution of the project trips based on how the proposed project would interact with other land uses within the region.

Since the TDF model accounts for every trip from its origin to its destination, no additional modifications to the project trip distribution are necessary. The model accounts for all trip types, including the pairing of trips within the project (i.e., internalization) and redistribution of existing trips. This includes existing trips along roadways that stop at new intermediate destinations within the proposed project, such as a gas station or restaurant, in route to their ultimate destination (i.e., pass-by or diverted link trips).

Trip Assignment

Using the trip generation and distribution data described above, the Placer County TDF model assigns traffic generated by the proposed project onto the model's roadway network. This trip assignment is based on the most likely routes that would be used to travel between origins and destinations.

To account for model error, this study adjusts the existing plus project traffic forecasts using a process known as the "difference method," which adjusts raw model volume forecasts based on expected incremental growth from existing conditions using the following formula:

$$\text{Existing Plus Project Forecasts} = \text{Existing Traffic Count} + (\text{Existing Plus Project Raw Model Volume} - \text{Base Year Raw Model Volume})$$

This study uses this difference method process to develop the existing plus project traffic forecasts at the study intersections, roadway segments, highways, and freeway facilities.

Existing Plus Project Conditions

Traffic Conditions

Intersections

Figures 3.15-8a through **3.15-8c** display the existing plus project traffic forecasts at the study intersections.

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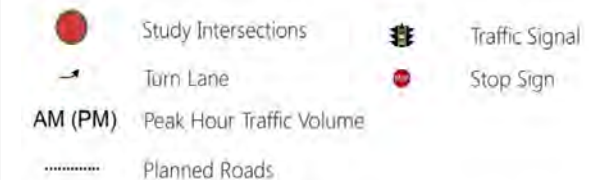
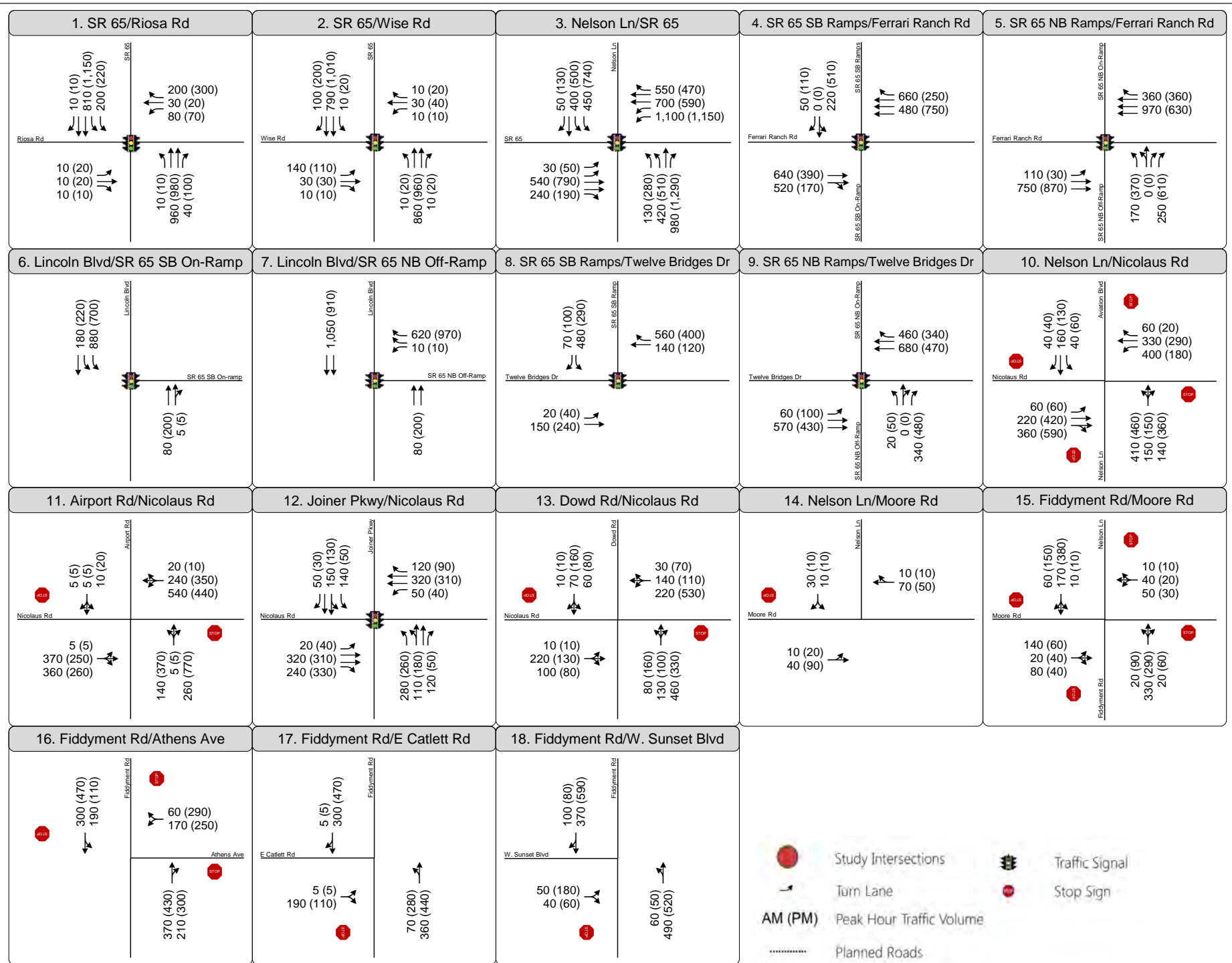
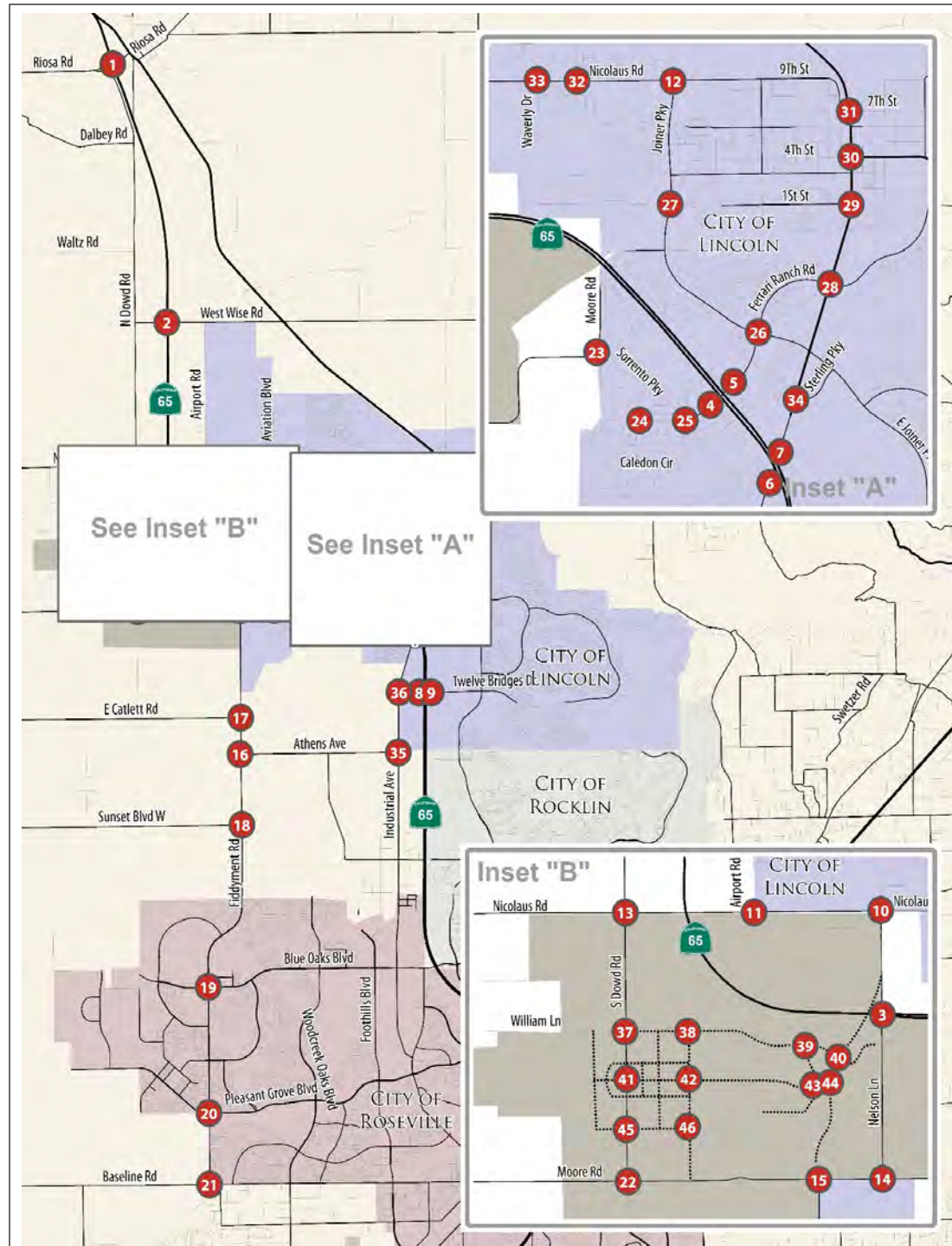


Figure 3.15-8A
Peak Hour Traffic Volumes and Lane Configurations -
Existing Plus Project Conditions

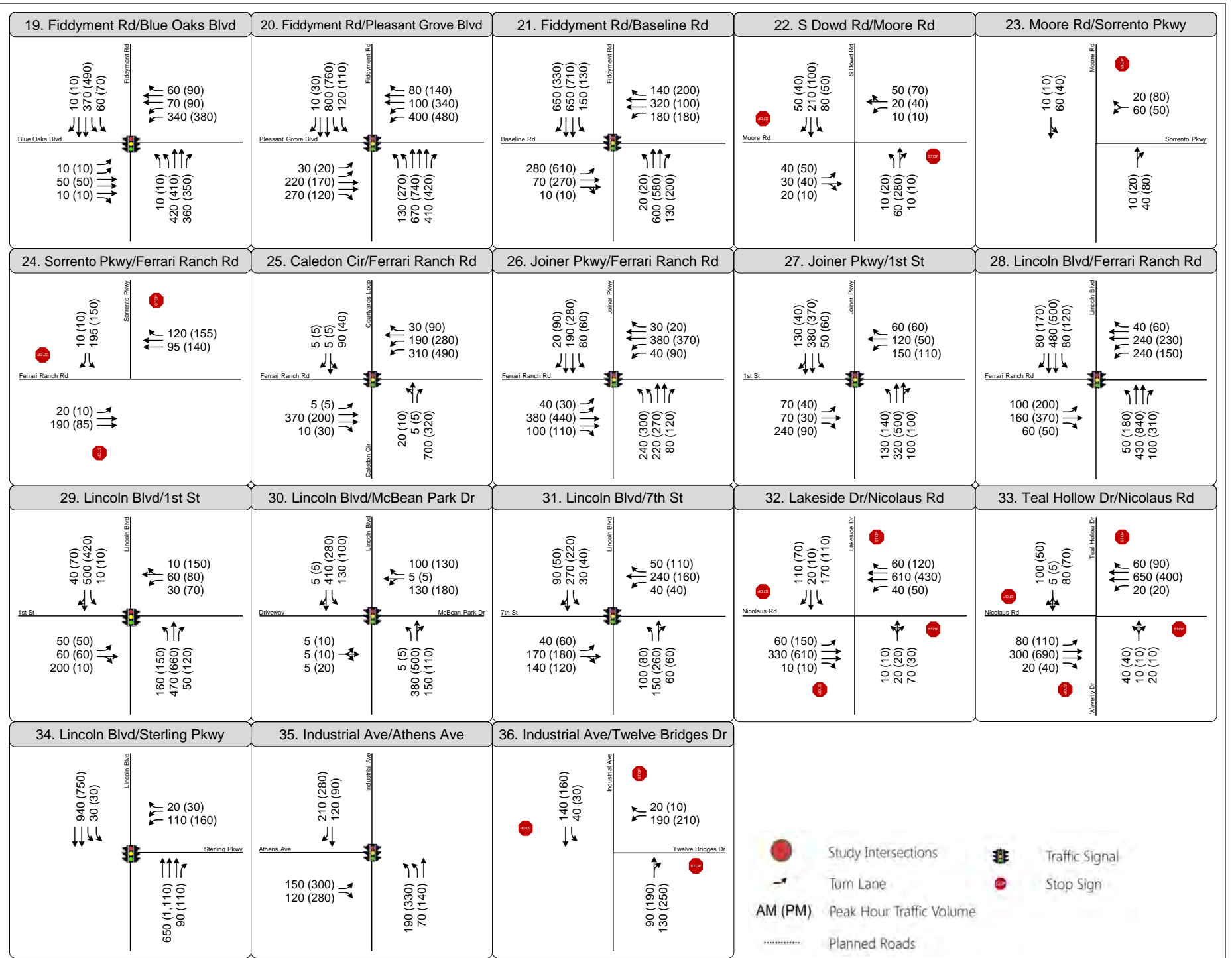
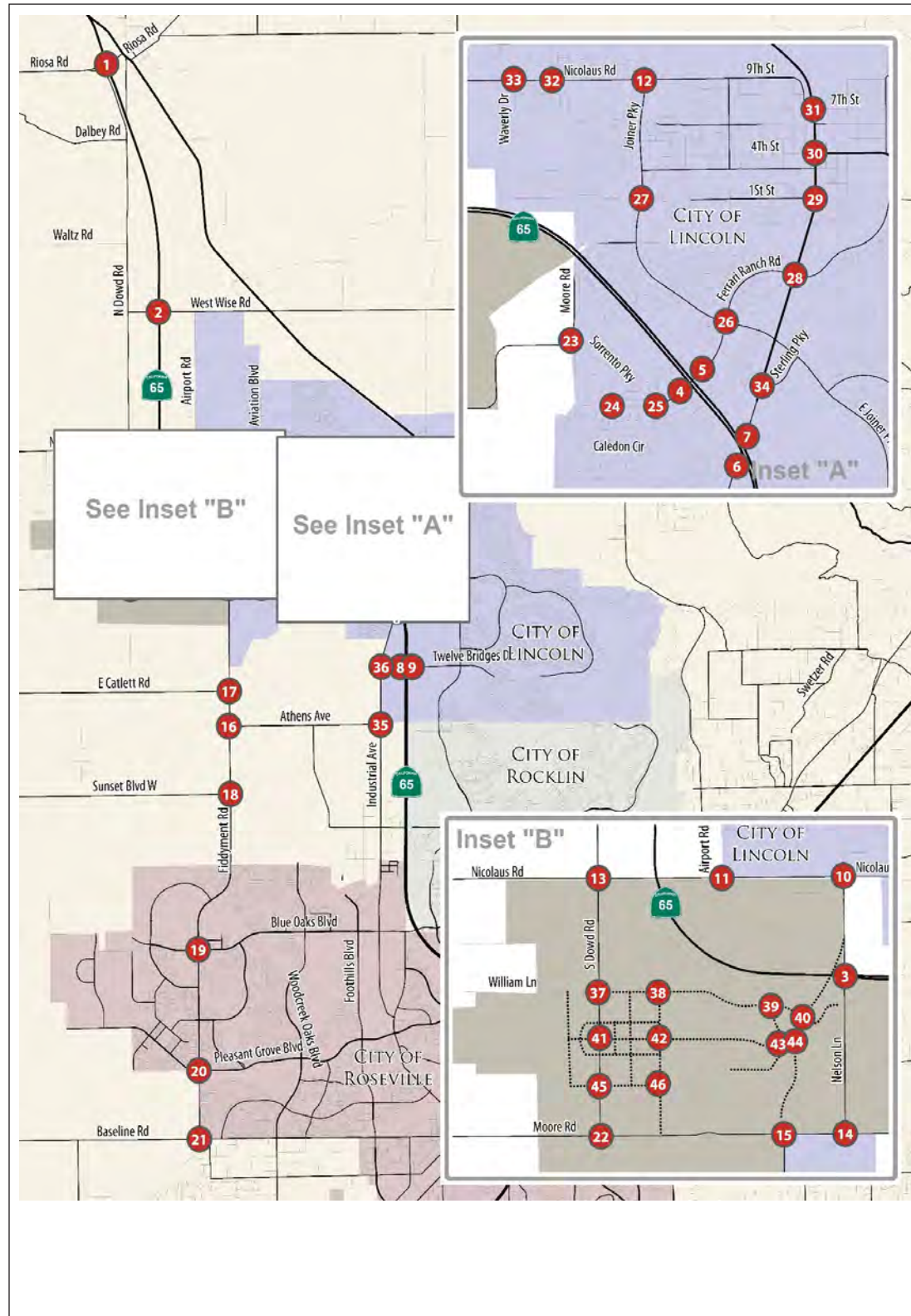
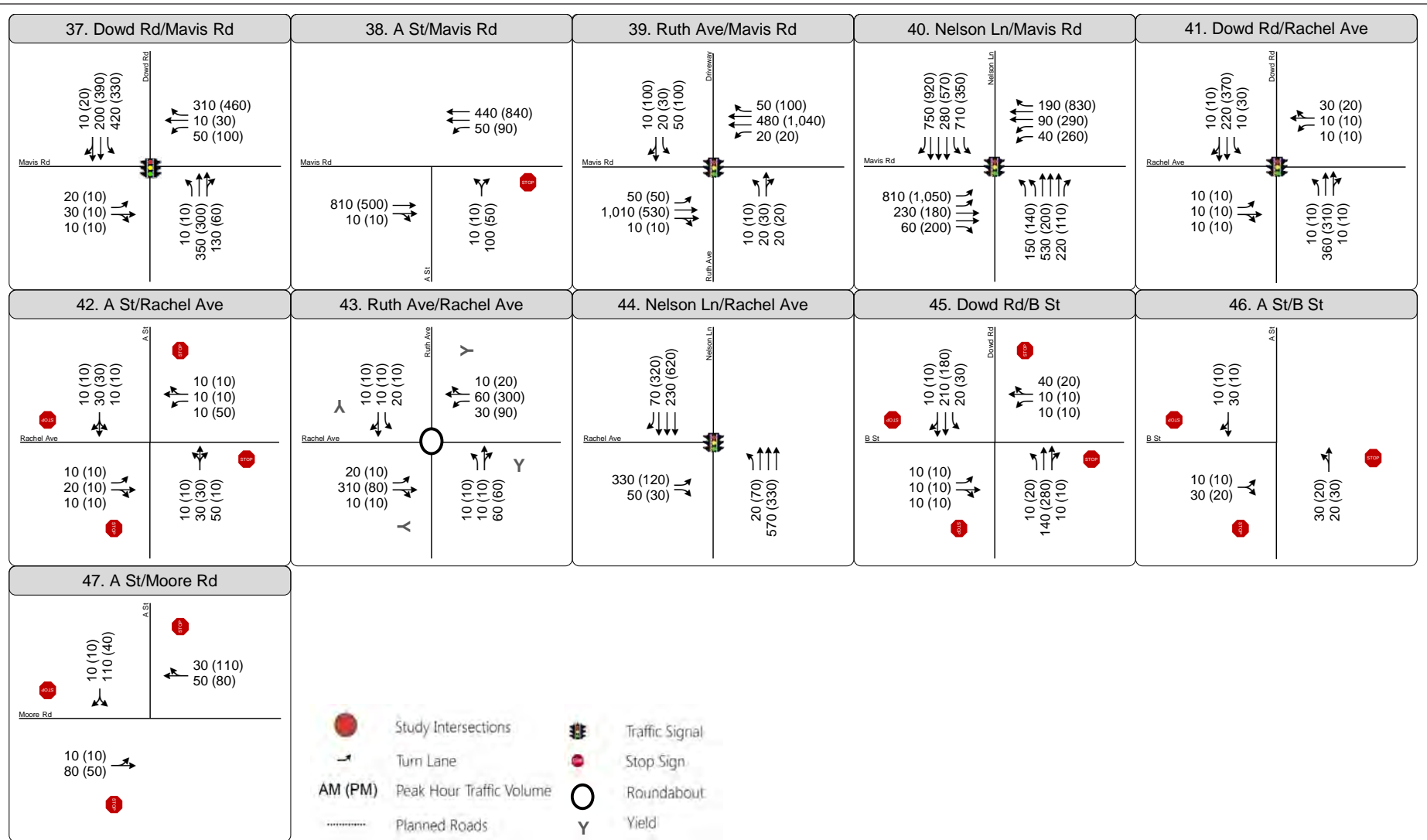
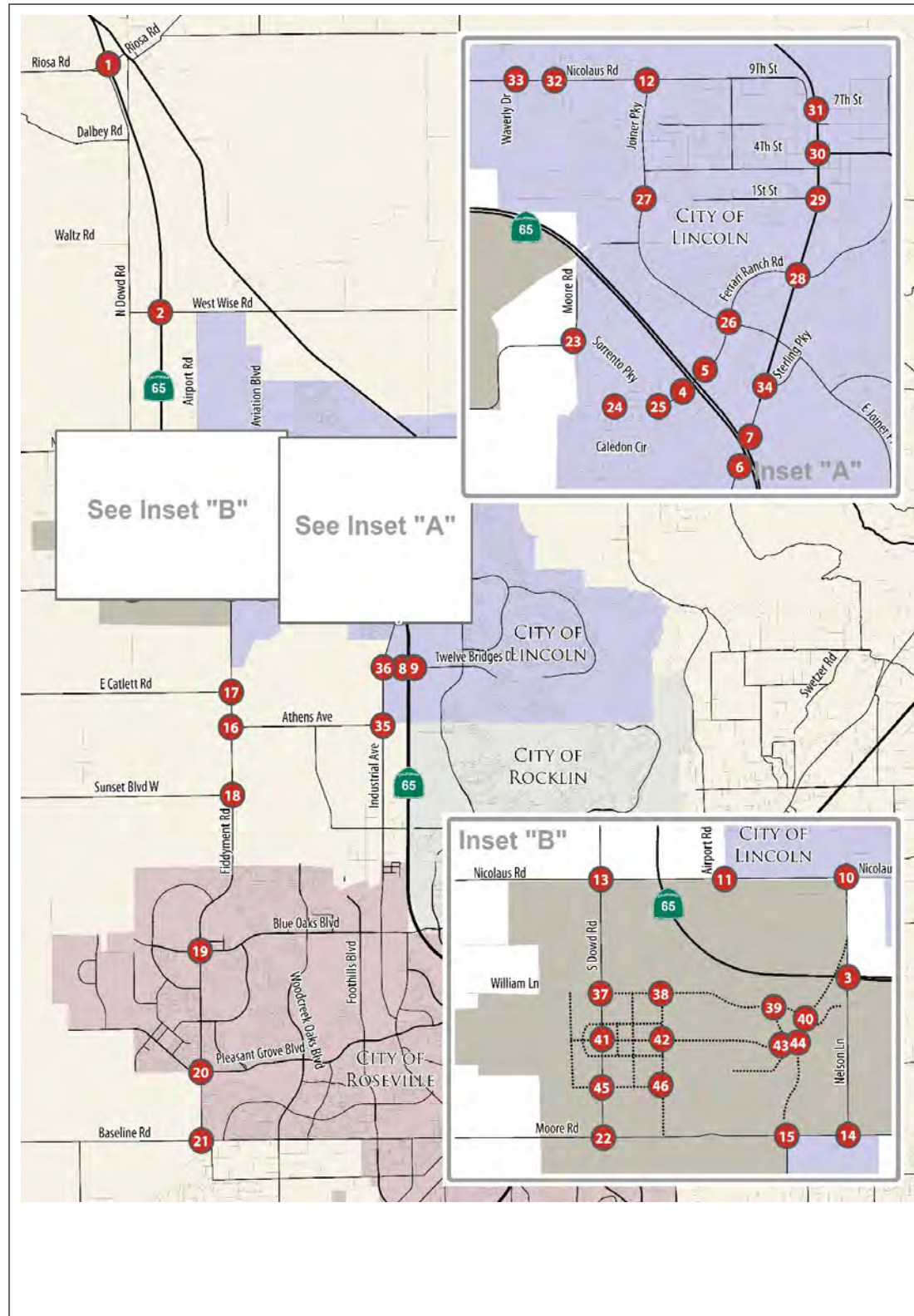


Figure 3.15-8B
Peak Hour Traffic Volumes and Lane Configurations - Existing Plus Project Conditions



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Table 3.15-12 presents the anticipated a.m. and p.m. peak hour LOS at each study intersection under existing plus project conditions (refer to Appendix L for calculations). This analysis is based on the existing plus project volumes shown in Figure 3.15-3a through Figure 3.15-3c. This study uses the existing lane configurations, traffic control, and signal timings for this analysis.

For purposes of this analysis, it is assumed that all study intersections within the Plan Area are annexed into the incorporated City of Lincoln. The following summarizes the meaningful changes in intersection operations by jurisdiction:

City of Lincoln

- The traffic added by the proposed project causes the following City of Lincoln intersections operating at an acceptable LOS under existing conditions to operate at an unacceptable LOS:
 - Nelson Lane/Nicolaus Road (#10): degrades from LOS C to LOS F during the a.m. and p.m. peak hours
 - Airport Road/Nicolaus Road (#11): degrades from LOS B to LOS F during the a.m. and p.m. peak hours
 - Dowd Road/Nicolaus Road (#13): degrades from LOS B to LOS F during the a.m. and p.m. peak hours
 - Fiddymont Road/Moore Road (#15): degrades from LOS A to LOS E during the p.m. peak hour
 - Dowd Road/Moore Road (#22): degrades from LOS A to LOS D during the a.m. peak hour
 - Lakeside Drive/Nicolaus Road (#32): degrades from LOS B to LOS D during the a.m. peak hour
- The proposed project adds traffic to the following City of Lincoln intersection currently operating at an unacceptable LOS under existing conditions:
 - Caledon Circle/Ferrari Ranch Road (#25): the addition of project trips increases the average vehicle delay by four seconds during the a.m. peak hour when the intersection operates at LOS E.
- The proposed project also creates several new intersections within the Plan Area. Of these intersections, only the Nelson Lane/Mavis Road (#40) intersection is expected to operate worse than LOS C during the a.m. and p.m. peak hours at build out of the specific plan.

Caltrans

- The traffic added by the proposed project causes the following Caltrans intersections operating at an acceptable LOS under existing conditions to operate at an unacceptable LOS:
 - Nelson Lane/SR 65 (#3): degrades from LOS C to LOS F during the a.m. and p.m. peak hours

**TABLE 3.15-12.
INTERSECTION OPERATIONS – EXISTING PLUS PROJECT CONDITIONS**

Intersection	Jurisdiction	Traffic Control	Peak Hour	Existing Conditions		Existing Plus Project	
				Delay	LOS	Delay	LOS
1. SR 65/Riosa Road	Caltrans	Signal	A.M.	15	B	16	B
			P.M.	16	B	19	B
2. SR 65/Wise Road	Caltrans	Signal	A.M.	9	A	13	B
			P.M.	11	B	13	B
3. Nelson Lane/SR 65	Caltrans	Signal	A.M.	22	C	<u>≥150</u>	F
			P.M.	21	C	<u>≥150</u>	F
4. SR 65 SB Ramps/Ferrari Ranch Rd.	Caltrans	Signal	A.M.	4	A	7	A
			P.M.	4	A	10	B
5. SR 65 NB Ramps/Ferrari Ranch Rd.	Caltrans	Signal	A.M.	11	B	12	B
			P.M.	11	B	11	B
6. SR 65 SB On-Ramp/Lincoln Blvd.	Caltrans	Signal	A.M.	5	A	8	A
			P.M.	7	A	7	A
7. SR 65 NB Off-Ramp/Lincoln Blvd.	Caltrans	Signal	A.M.	2	A	2	A
			P.M.	1	A	1	A
8. SR 65 SB Ramps/Twelve Bridges Dr.	Caltrans	Signal	A.M.	13	B	15	B
			P.M.	9	A	10	A
9. SR 65 NB Ramps/Twelve Bridges Dr.	Caltrans	Signal	A.M.	11	B	12	B
			P.M.	11	B	13	B
10. Nelson Lane/Nicolaus Road	City of Lincoln	AWSC	A.M.	19	C	69	F
			P.M.	18	C	64	F
11. Airport Road/Nicolaus Road	City of Lincoln	SSSC	A.M.	10	B	<u>≥150</u>	F
			P.M.	10	B	<u>≥150</u>	F
12. Joiner Parkway/Nicolaus Road	City of Lincoln	Signal	A.M.	12	B	14	B
			P.M.	10	B	12	B
13. Dowd Road/Nicolaus Road	Unincorporated Placer County ³	SSSC	A.M.	10	B	<u>≥150</u>	F
			P.M.	11	B	<u>≥150</u>	F
14. Nelson Lane/Moore Road	Unincorporated Placer County ³	SSSC	A.M.	9	A	9	A
			P.M.	9	A	9	A
15. Fiddymment Road/Moore Road	Unincorporated Placer County ³	AWSC	A.M.	8	A	21	C
			P.M.	8	A	41	E
16. Fiddymment Road/Athens Avenue	Unincorporated Placer County	AWSC	A.M.	10	A	45	E
			P.M.	13	B	66	F
17. Fiddymment Road/E. Catlett Road	Unincorporated Placer County	SSSC	A.M.	9	A	13	B
			P.M.	9	A	19	C
18. Fiddymment Road/W. Sunset Blvd.	Unincorporated Placer County	SSSC	A.M.	12	B	28	D
			P.M.	20	C	<u>≥150</u>	F
19. Fiddymment Road/Blue Oaks Blvd.	City of Roseville	Signal	A.M.	19	B	17	B
			P.M.	18	B	19	B
20. Fiddymment Road/Pleasant Grove Blvd.	City of Roseville	Signal	A.M.	29	C	30	C
			P.M.	26	C	28	C
21. Fiddymment Road/Baseline Road	City of Roseville	Signal	A.M.	49	D	50	D
			P.M.	>150	F	145	F
22. Dowd Road/Moore Road	Unincorporated Placer County ³	SSSC	A.M.	9	A	32	D
			P.M.	9	A	24	C
23. Sorrento Parkway/Moore Road	Unincorporated Placer County	SSSC	A.M.	10	A	10	A
			P.M.	9	A	10	A
24. Sorrento Parkway/Ferrari Ranch Road	City of Lincoln	AWSC	A.M.	9	A	10	A
			P.M.	8	A	8	A

**TABLE 3.15-12.
INTERSECTION OPERATIONS – EXISTING PLUS PROJECT CONDITIONS**

Intersection	Jurisdiction	Traffic Control	Peak Hour	Existing Conditions		Existing Plus Project	
				Delay	LOS	Delay	LOS
25. Caledon Circle/Ferrari Ranch Road	City of Lincoln	Signal	A.M.	60	E	64	E
			P.M.	15	B	15	B
26. Joiner Parkway/Ferrari Ranch Road	City of Lincoln	Signal	A.M.	16	B	17	B
			P.M.	15	B	17	B
27. Joiner Parkway/1st Street	City of Lincoln	Signal	A.M.	32	C	33	C
			P.M.	17	B	18	B
28. Lincoln Blvd./Ferrari Ranch Road	City of Lincoln	Signal	A.M.	14	B	15	B
			P.M.	18	B	32	C
29. Lincoln Blvd./1st Street	City of Lincoln	Signal	A.M.	37	D	42	D
			P.M.	20	B	21	C
30. Lincoln Blvd./McBean Park Drive	City of Lincoln	Signal	A.M.	16	B	28	C
			P.M.	26	C	28	C
31. Lincoln Blvd./7th Street	City of Lincoln	Signal	A.M.	16	B	31	D
			P.M.	15	B	17	B
32. Lakeside Drive/Nicolaus Road	City of Lincoln	AWSC	A.M.	13	B	34	D
			P.M.	9	A	15	B
33. Teal Hollow Drive/Nicolaus Road	City of Lincoln	AWSC	A.M.	10	A	15	C
			P.M.	9	A	14	B
34. Sterling Parkway/Lincoln Blvd.	City of Lincoln	Signal	A.M.	7	A	7	A
			P.M.	9	A	10	A
35. Industrial Avenue/Athens Avenue	Unincorporated Placer County	Signal	A.M.	15	B	15	B
			P.M.	17	B	19	B
36. Industrial Avenue/Twelve Bridges Dr.	Unincorporated Placer County	AWSC	A.M.	10	B	11	B
			P.M.	14	B	15	B
37. Dowd Road/Mavis Road	City of Lincoln ⁴	Signal	A.M.			33	C
			P.M.			34	C
38. "A Street"/Mavis Road	City of Lincoln ⁴	SSSC	A.M.			16	C
			P.M.			14	B
39. Ruth Avenue/Mavis Road	City of Lincoln ⁴	Signal	A.M.			14	B
			P.M.			16	B
40. Nelson Lane/Mavis Road	City of Lincoln ⁴	Signal	A.M.			64	E
			P.M.			138	F
41. Dowd Road/Rachel Avenue	City of Lincoln ⁴	Signal	A.M.			14	B
			P.M.			14	B
42. "A Street"/Rachel Avenue	City of Lincoln ⁴	AWSC	A.M.			8	A
			P.M.			8	A
43. Ruth Avenue/Rachel Avenue	City of Lincoln ⁴	Roundabout	A.M.			6	A
			P.M.			7	A
44. Nelson Lane/Rachel Avenue	City of Lincoln ⁴	Signal	A.M.			11	B
			P.M.			10	A
45. Dowd Road/"B Street"	City of Lincoln ⁴	Signal	A.M.			5	A
			P.M.			5	A
46. "A Street"/"B Street"	City of Lincoln ⁴	AWSC	A.M.			7	A
			P.M.			7	A

**TABLE 3.15-12.
INTERSECTION OPERATIONS – EXISTING PLUS PROJECT CONDITIONS**

Intersection	Jurisdiction	Traffic Control	Peak Hour	Existing Conditions		Existing Plus Project	
				Delay	LOS	Delay	LOS
47. Moore Road/"A Street"	City of Lincoln ⁴	SSSC	A.M.			10	B
			P.M.			10	A

NOTES:

- For signalized, roundabout, and all-way stop controlled (AWSC) intersections, average intersection delay is reported in seconds per vehicle for all approaches.
 - Per the HCM, the LOS and average delay for the lane with the highest delay is reported for side-street stop controlled (SSSC) intersections.
 - Intersections that are currently in unincorporated Placer County that would be incorporated into the City of Lincoln under existing plus project conditions.
 - Proposed project Intersections that do not exist under existing conditions. They are assumed to be incorporated into the City of Lincoln under existing plus project conditions.
- Delays greater than 2.5 minutes are reported as greater than 150 seconds due to model insensitivity for heavily congested conditions.
- BOLD** text indicates the intersection operates at an unacceptable LOS based on the presiding jurisdiction's level of service policy.
- UNDERLINED text indicates a potentially significant impact based on the significance criteria.

SOURCE: Fehr & Peers, 2015.

Placer County

- The traffic added by the proposed project causes the following Placer County intersections operating at an acceptable LOS under existing conditions to operate at an unacceptable LOS:
 - Fiddymment Road/Athens Avenue (#16): degrades from LOS A to LOS E during the a.m. peak hour and from LOS B to LOS F during the p.m. peak hour
 - Fiddymment Road/W. Sunset Boulevard (#18): degrades from LOS B to LOS D during the a.m. peak hour and from LOS C to LOS F during the p.m. peak hour

City of Roseville

- The proposed project adds traffic to the following City of Roseville intersection currently operating at an unacceptable LOS under existing conditions:
 - Fiddymment Road/Baseline Road (#21): the addition of project trips increases the average vehicle delay by one second during the a.m. peak hour when it operates at LOS D and reduces the average vehicle delay by six seconds during the p.m. peak hour when it operates at LOS F. While this reduction in average vehicle delay is counterintuitive, it is caused by adding traffic to low delay movements and more efficient utilization of the existing signal timings that result in an overall reduction in average vehicle delay.

The results presented in Table 3.15-12 and summarized above are discussed in more detail in Impacts 3.15-1 through 3.15-6.

Roadways

Table 3.15-13 presents the daily traffic volumes for each roadway segment and the corresponding LOS under existing plus project conditions. Based on the results presented in Table 3.15-13, all study roadway segments continue to operate at LOS C or better.

**TABLE 3.15-13.
DAILY ROADWAY OPERATIONS – EXISTING PLUS PROJECT CONDITIONS**

Roadway Segment	Classification	Existing Conditions			Existing Plus Project		
		Daily Traffic Volume	V/C	LOS	Daily Traffic Volume	V/C	LOS
Fiddymment Road							
Moore Road to Athens Avenue	2-lane Arterial	2,521	0.13	A	14,200	0.71	C
Athens Avenue to Roseville City Limits	2-lane Arterial	7,539	0.38	A	14,900	0.75	C
Athens Avenue							
Fiddymment Road to Foothills Boulevard	2-lane Arterial	6,512	0.33	A	9,100	0.46	A

NOTES:

1. High-Access Controlled Arterial, per the definition outlined in Table 4-16 of the Placer County Countywide General Plan Final EIR.
2. V/C = Volume-to-capacity ratio.
3. Level of service based on thresholds presented in Table 3.15-3 from the Placer County Countywide General Plan Final EIR.

SOURCE: Fehr & Peers, 2015

Highways

Table 3.15-14 presents the a.m. and p.m. peak hour traffic volumes for each highway segment and the corresponding LOS under existing plus project conditions. Based on the results presented in Table 3.15-14, all study highway segments continue to operate at an acceptable LOS based on the Concept LOS identified in the SR 65 CSMP. SR 65 north of Riosa Road continues to operate at LOS E, which is considered acceptable per the SR 65 CSMP. SR 65 from Nelson Lane to Riosa Road continues to operate at an acceptable LOS B or better.

Freeways

Table 3.15-15 presents the a.m. and p.m. peak hour traffic operations on the study freeway segments under existing plus project conditions.

The following summarizes the key changes in freeway traffic operations:

- SR 65 Northbound – the traffic added by the proposed project degrades traffic operations from LOS C to LOS E between Sunset Boulevard and Lincoln Boulevard during the p.m. peak hour.
- SR 65 Southbound – the traffic added by the proposed project degrades traffic operations from LOS D to LOS E between Twelve Bridges Drive and Sunset Boulevard during the a.m. peak hour.

Since LOS E is the concept LOS for these segments of SR 65, per the SR 65 CSMP, the LOS E operations are considered acceptable.

**TABLE 3.15-14.
HIGHWAY OPERATIONS – EXISTING PLUS PROJECT CONDITIONS**

Location	Peak Hour	Direction	Existing Conditions			Existing Plus Project		
			Performance Metric	LOS		Performance Metric	LOS	
State Route 65 – Two Lane Highway ¹			PTSF	ATS (mph)		PTSF	ATS (mph)	
North of Riosa Road	A.M.	Combined	89	39	E	92	35	E
	P.M.	Combined	84	39	E	94	33	E
State Route 65 – Multilane Highway ²			Density (pcpmpl)			Density (pcpmpl)		
Riosa Road to Wise Road	A.M.	Northbound	8		A	10		A
		Southbound	6		A	9		A
	P.M.	Northbound	8		A	10		A
		Southbound	6		A	12		B
Wise Road to Nelson Lane	A.M.	Northbound	8		A	9		A
		Southbound	6		A	9		A
	P.M.	Northbound	8		A	9		A
		Southbound	6		A	10		A

NOTES:

1. Percent Time Spent Following (PTSF), Average Travel Speed (ATS), and LOS are calculated for two-lane highway segments using the methodologies and procedures in the Highway Capacity Manual (Transportation Research Board, 2010).
2. Density is reported in passenger car equivalents per mile per lane (pcpmpl). Directional densities and LOS results for multilane highway segments are calculated using the methodologies and procedures in the Highway Capacity Manual (Transportation Research Board, 2010).

SOURCE: Fehr & Peers, 2015

**TABLE 3.15-15.
FREEWAY OPERATIONS – EXISTING PLUS PROJECT CONDITIONS**

Location	Segment Type	Peak Hour	Existing Conditions		Existing Plus Project	
			Density ¹	LOS	Density ¹	LOS
Northbound SR 65						
Sunset Blvd. to Twelve Bridges Drive	Basic	A.M.	16	B	26	C
		P.M.	25	C	36	E
Twelve Bridges Drive Off-Ramp	Diverge	A.M.	20	C	31	D
		P.M.	31	C	38	E
Twelve Bridges Drive to Lincoln Blvd.	Weave ²	A.M.	-	A	-	C
		P.M.	-	C	-	E
Ferrari Ranch Road Off-Ramp	Diverge	A.M.	7	A	14	B
		P.M.	10	A	15	B
Ferrari Ranch Road On-Ramp	Merge	A.M.	10	A	23	C
		P.M.	9	A	20	C
Ferrari Ranch Road to Nelson Lane	Basic	A.M.	8	A	22	C
		P.M.	7	A	18	C

**TABLE 3.15-15.
FREEWAY OPERATIONS – EXISTING PLUS PROJECT CONDITIONS**

Location	Segment Type	Peak Hour	Existing Conditions		Existing Plus Project	
			Density ¹	LOS	Density ¹	LOS
Southbound SR 65						
Nelson Lane to Ferrari Ranch Road	Basic	A.M.	8	A	17	B
		P.M.	9	A	25	C
Ferrari Ranch Road Off-Ramp	Diverge	A.M.	11	B	22	C
		P.M.	13	B	30	D
Ferrari Ranch Road Loop On-Ramp	Basic	A.M.	9	A	14	B
		P.M.	6	A	14	B
Ferrari Ranch Road Slip On-Ramp	Merge	A.M.	14	B	18	B
		P.M.	8	A	15	B
Lincoln Blvd. to Twelve Bridges Drive	Weave ²	A.M.	-	C	-	D
		P.M.	-	A	-	D
Twelve Bridges Drive On-Ramp	Merge	A.M.	28	D	36	E
		P.M.	21	C	32	D
Twelve Bridges Drive to Sunset Blvd.	Basic	A.M.	26	D	37	E
		P.M.	18	C	31	D

NOTES:

- Density is reported in passenger car equivalents per mile per lane (pcpmp)
- Per Caltrans' *Guide for the Preparation of Traffic Impact Studies*, weave sections are analyzed using the Leisch Method as described in Chapter 500 of the *Highway Design Manual*. Weave LOS results are based on service volume (density not calculated).

SOURCE: Fehr & Peers, 2015

Bicycle and Pedestrian System

The V5SP identifies a comprehensive mobility network, including designated facilities for bicyclists and pedestrians. This includes numerous off-street Class I multi-use trails along several project roadways and along Markham and Auburn Ravines. The Specific Plan also identifies several north-south Class I trail connecting the regional park off Mavis Avenue to Auburn Ravine, community parks, schools, and commercial areas. These north-south trails may include grade-separated crossings, such as tunnels or bridges, at east-west roadways, such as Ruth Avenue, Rachel Avenue, and Mavis Avenue, to reduce conflicts between bicyclists, pedestrians, and vehicles.

Class II bike lanes are provided on the expected bicycle commute corridors, including Nicolaus Road, Mavis Avenue, Dowd Road, and Nelson Lane, and facilities expected to be used for longer distance recreational travel, such as Moore Road.

The V5SP also includes a cycle track along Rachel Avenue, the central spine street which connects the neighborhoods to the Village Centers on each end. This new type of bicycle facility offers many of the safety advantages of an off-street facility, while technically being an on-street facility. The proposed cycle track permits two-way bicycle travel in a 10-foot designated area for

the exclusive use of bicyclists. The cycle track is physically separated from vehicle traffic by a landscaped buffer.

The proposed project also includes sidewalks on the vast majority of project roadways, and will provide crosswalks at signalized intersections and roundabouts to support pedestrian activity.

Neighborhood Electric Vehicles

The City of Lincoln has a Neighborhood Electric Vehicle (NEV) plan consistent with Section 21250 of the California Vehicle Code. NEVs are permitted to travel in general purpose lanes on roadways in the city with posted speed limits of 35 miles per hour or less. For roadways with posted speeds of 35 mph or over, a dedicated NEV lane is required. The City's NEV plan allows for a combined eight-foot shared Class II bicycle/NEV lane in these instances. Exhibit 5.2 and Table 5-1 (Plan Area Roadway Cross-Sections) of the V5SP identify which roadways will have dedicated NEV systems that will coincide with the Class II bicycle lane.

Transit System

The V5SP includes bus turnouts and shelters to accommodate planned transit service expansion to the area. Transit service to the area may be provided both by City of Lincoln Transit and Placer County Transit. In addition, a bus transfer lot is being considered as part of a joint use park-and-ride lot to support transit use.

Cumulative Conditions

This section describes the anticipated travel conditions under cumulative conditions for the roadway, transit, and bicycle/pedestrian systems. As with the existing plus project analysis, the Placer County TDF model is used to forecast cumulative traffic volumes within the study area.

To identify the proposed project's cumulative effect, the cumulative conditions analysis includes the following two scenarios:

- Cumulative No Project Conditions
- Cumulative Plus Project Conditions

Both scenarios include the land use and transportation system inputs described below. The Cumulative No Project scenario does not include any development proposed by the V5SP. The Cumulative Plus Project scenario includes the proposed project in addition to the cumulative land use and transportation system inputs. The difference in traffic conditions between these two scenarios is assumed to be the proposed project's incremental effect when viewed in connection with the effects of other current and probable future projects.

Land Use and Transportation System Inputs

The cumulative version of the 2008 Placer County TDF model has a horizon year of 2025. This "2025" Placer County TDF model includes land development and transportation infrastructure projects that are anticipated to be constructed by 2025. The land development inputs are projected

based on the adopted general plans for the County of Placer and Cities of Auburn, Lincoln, Loomis, Rocklin, and Roseville, and population and employment projections at the time of the model's development. Similarly, the transportation infrastructure projects are those anticipated to be funded and constructed by the horizon year of the model based on adopted regional transportation plans and local capital improvement programs.

Since the recent economic recession slowed the pace of land development in Placer County, the land use development assumed in the 2025 Placer County TDF model is unlikely to occur within the next ten years as originally anticipated in 2008. For example, the Sacramento Area Council of Governments' (SACOG) 2035 Metropolitan Transportation Plan and Sustainable Communities Strategy (MTP/SCS), which was adopted in 2012, forecasts a dramatically reduced amount of land development in South Placer County based on revised population and employment forecasts. In fact, the growth anticipated for the City of Lincoln by 2035 in the SACOG MTP/SCS is only about one-third of the growth included in the 2025 Placer County TDF model.

To account for this reduced amount of growth while also including all reasonably foreseeable land development projects in the study area, this study makes the following adjustments to the 2025 Placer County TDF model land use inputs.

- Updated the land use inputs to ensure that the full build out of the Lincoln Village 1 and Lincoln Village 7 Specific Plans, which have been adopted by the City of Lincoln.
- Removed all projected development in Lincoln Villages 2, 3, 4, and 6, as well as SUD-C, which have limited or no growth in the SACOG MTP/SCS, and do not have approved specific plans.
- Updated the land use inputs to include full build out of both Amoruso Ranch Specific Plan and Placer Ranch Specific Plan. The City of Roseville has issued a notice of preparation of a Draft EIR for both of these specific plans, which indicates that they are reasonably foreseeable to occur.^{25,26}
- Used the land use inputs in the 2025 Placer County TDF model to reflect additional development within the City of Lincoln City Limits.

In addition to these land development adjustments, several adjustments were made to the roadway network in the 2025 Placer County TDF model. This study verified that the internal circulation improvements associated with the land developments listed above were included in the cumulative model. This analysis also cross-references the SACOG MTP/SCS financially constrained transportation project list to verify that the reasonably foreseeable funded transportation infrastructure improvements are included. This includes the following transportation improvements in the study area.

²⁵ City of Roseville, 2016. Amoruso Ranch Specific Plan. Adopted June 15, 2016. Available: www.roseville.ca.us/gov/development_services/planning/specific_plans_n_planning_areas/amoruso_ranch_specific_plan.asp. Accessed February 7, 2015.

²⁶ City of Roseville. Placer Ranch Specific Plan. Available: www.roseville.ca.us/gov/development_services/planning/specific_plans_n_planning_areas/placer_ranch_specific_plan.asp. Accessed February 5, 2015.

- Widen Nicolaus Road from 2 to 4 lanes from Airport Road to Aviation Boulevard
- Widen East Joiner Parkway from 4 to 6 lanes from Ferrari Ranch Road to Sterling Parkway
- Extend Ferrari Ranch Road from existing City Limit to Moore Road
- Widen Twelve Bridges Drive from 2 to 4 lanes from Industrial Boulevard to SR 65; includes interchange improvements at SR 65
- Widen Industrial Boulevard from 2 to 4 lanes from Athens Avenue to SR 65
- Widen Fiddymment Road from 2 lanes to 4 lanes from Roseville City Limits to Athens Road
- Replace 2 lane bridge with a 4 lane bridge on Nelson Lane over Markham Ravine
- Placer Parkway Phase I – construct a new 4-lane divided facility with an interchange at SR 65 at Whitney Ranch Parkway alignment. Includes at grade intersection at Foothills Boulevard.
- Whitney Ranch Parkway – construct a new 6-lane facility from SR 65 to Wildcat Boulevard

Figure 3.15-9 presents the future number of travel lanes on the major roadways in the study area with the transportation improvements summarized above.

Cumulative Traffic Conditions

Similar to the existing plus project travel demand modeling, this study forecasts the cumulative conditions traffic volumes using the “difference method.” This approach adjusts raw model volume forecasts based on expected incremental growth from existing conditions using the following formula:

$$\text{Cumulative Forecasts} = \text{Existing Traffic Count} + (\text{Cumulative Raw Model Volume} - \text{Base Year Raw Model Volume})$$

This study uses this difference method process to independently develop both the cumulative no project and cumulative plus project traffic forecasts.

Intersections

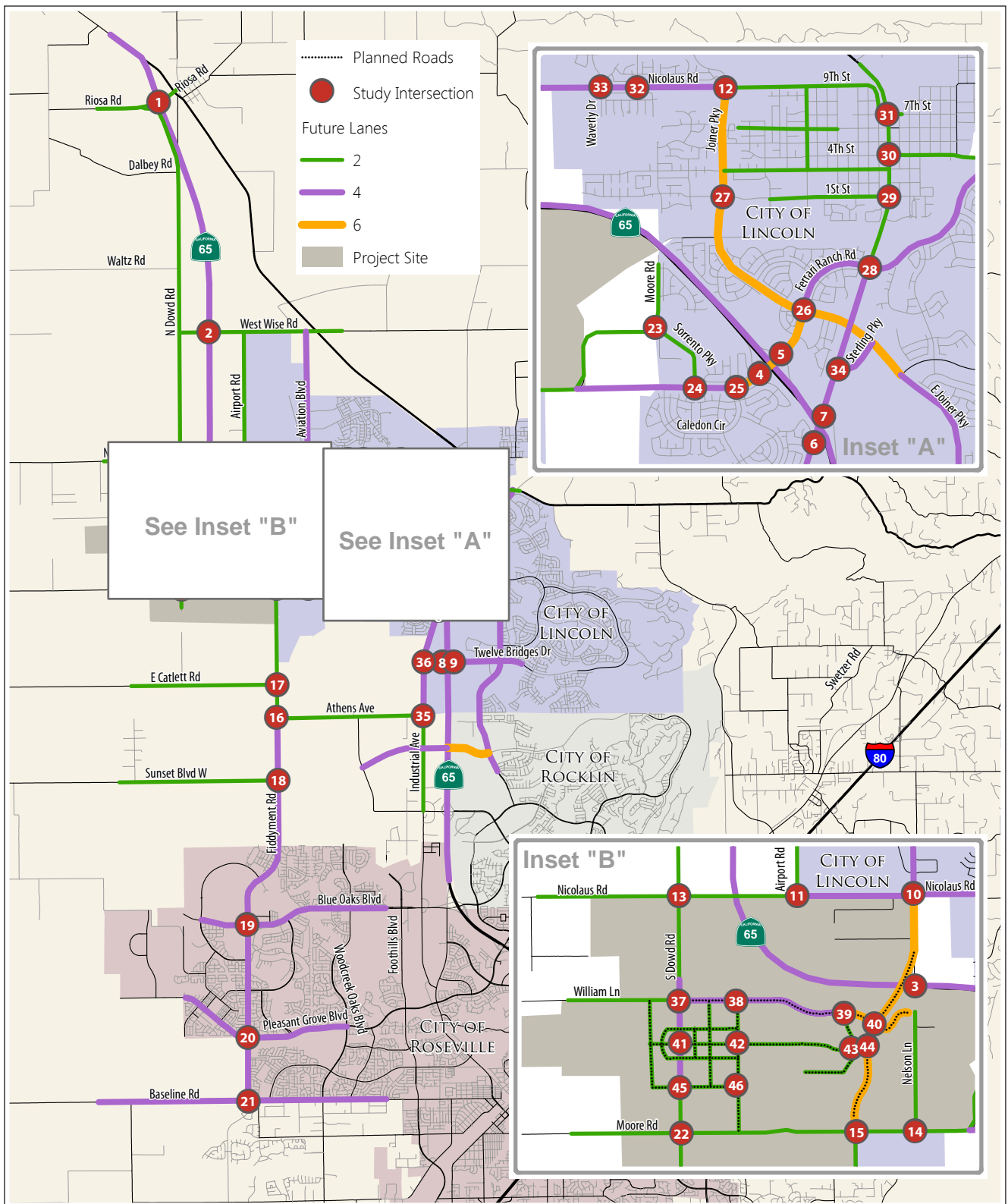
Figure 3.15-10a and **3.15-10b** present the traffic volumes, lane configurations and traffic control devices at the study intersections under cumulative no project conditions. **Figure 3.15-11a** through **3.15-11c** present the traffic volumes, lane configurations and traffic control devices at the study intersections under cumulative plus project conditions.

Table 3.15-16 presents the a.m. and p.m. peak hour LOS at each study intersection for both cumulative no project and cumulative plus conditions (refer to Appendix L for calculations). The following summarizes the key intersection traffic operations results by jurisdiction:

City of Lincoln

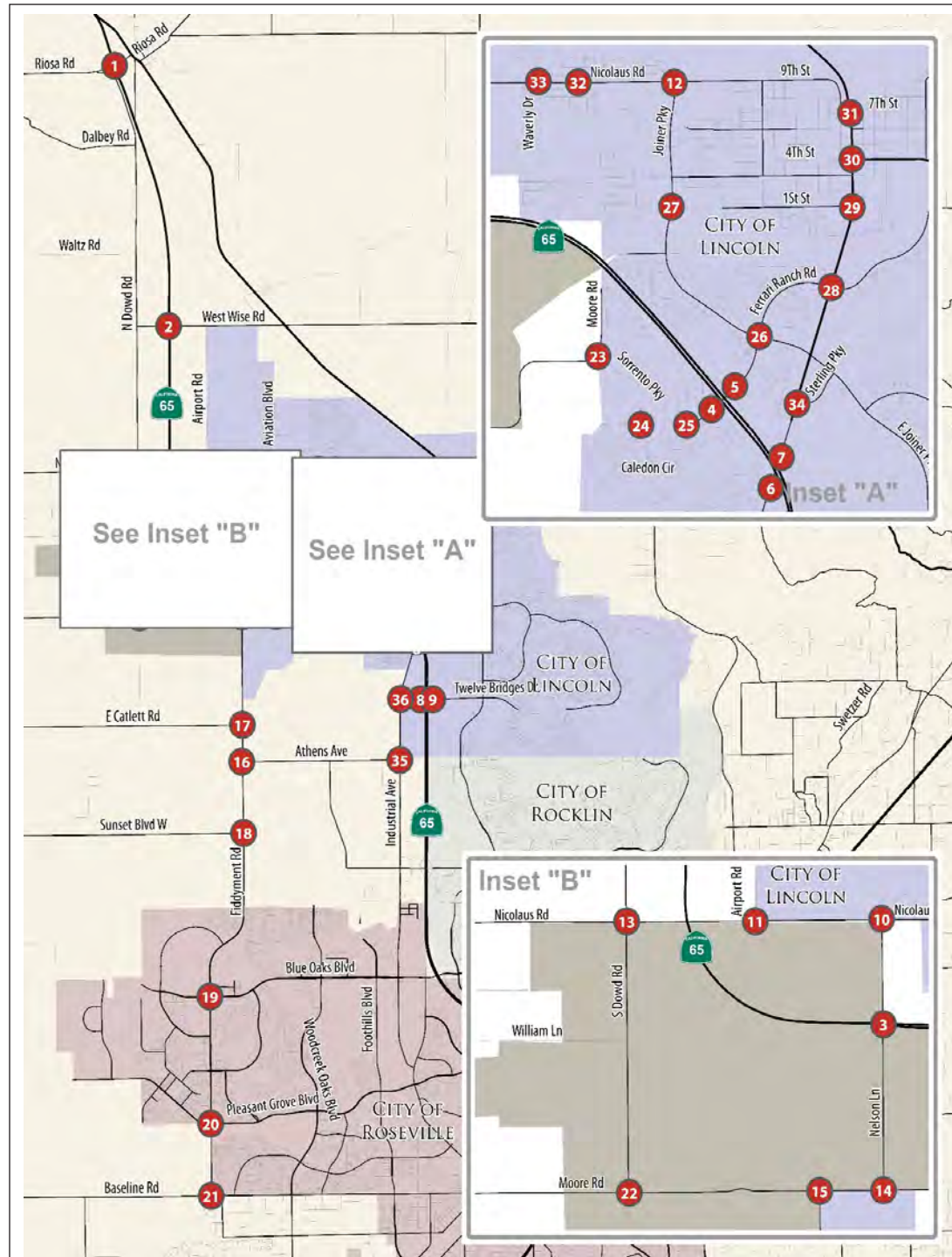
- The following City of Lincoln intersections are anticipated to operate at LOS D, E, or F under cumulative no project and/or cumulative plus project conditions:
 - Nelson Lane/Nicolaus Road (#10): LOS F during a.m. and p.m. peak hour under both cumulative scenarios
 - Airport Road/Nicolaus Road (#11): LOS F during a.m. and p.m. peak hour under both cumulative scenarios
 - Fiddymont Road/Moore Road (#15): LOS E during the a.m. peak hour and LOS F during the p.m. peak hour under cumulative no project conditions; LOS F during the a.m. and p.m. peak hour under cumulative plus project conditions
 - Dowd Road/Moore Road (#22): LOS D during the p.m. peak hour under cumulative no project conditions; LOS F during the a.m. and p.m. peak hour under cumulative plus project conditions
 - Caledon Circle/Ferrari Ranch Road (#25): LOS F during the a.m. peak hour under both cumulative scenarios; LOS D during the p.m. peak hour under both cumulative scenarios
 - Joiner Parkway/1st Street (#27): LOS D during the a.m. peak hour under both cumulative scenarios
 - Lincoln Boulevard/Ferrari Ranch Road (#28): LOS D during the p.m. peak hour under both cumulative scenarios

- The following City of Lincoln intersections are anticipated to operate at LOS D, E, or F under cumulative plus project conditions only:
 - Joiner Parkway/Nicolaus Road (#12): LOS D during the p.m. peak hour under cumulative plus project conditions
 - Old Nelson Lane/Moore Road (#14): LOS E during the p.m. peak hour under cumulative plus project conditions
 - Joiner Parkway/Ferrari Ranch Road (#26): LOS D during the p.m. peak hour under cumulative plus project conditions
 - Lakeside Drive/Nicolaus Road (#32): LOS E during the a.m. and p.m. peak hour under cumulative plus project conditions
 - Teal Hollow Drive/Nicolaus Road (#33): LOS D during the a.m. peak hour and LOS E during the p.m. peak hour under cumulative plus project conditions
 - Dowd Road/Mavis Road (#37): LOS F during the a.m. and p.m. peak hours under cumulative plus project conditions
 - Nelson Lane/Mavis Road (#40): LOS D during the a.m. peak hour and LOS F during the p.m. peak hour under cumulative plus project conditions



SOURCE: Fehr & Peers, 2015

Lincoln Village 5 EIR . 130368
Figure 3.15-9
 Cumulative Roadway Network



1. SR 65/Riosa Rd	2. SR 65/Wise Rd	3. Nelson Ln/SR 65	4. SR 65 SB Ramps/Ferrari Ranch Rd	5. SR 65 NB Ramps/Ferrari Ranch Rd
6. Lincoln Blvd/SR 65 SB On-Ramp	7. Lincoln Blvd/SR 65 NB Off-Ramp	8. SR 65 SB Ramps/Twelve Bridges Dr	9. SR 65 NB Ramps/Twelve Bridges Dr	10. Aviation Blvd/Nicolau Rd
11. Airport Rd/Nicolau Rd	12. Joiner Pkwy/Nicolau Rd	13. Dowd Rd/Nicolau Rd	14. Nelson Ln/Moore Rd	15. Fiddymt Rd/Moore Rd
16. Fiddymt Rd/Athens Ave	17. Fiddymt Rd/E Catlett Rd	18. Fiddymt Rd/W. Sunset Blvd		



Figure 3.15-10A
Peak Hour Traffic Volumes and Lane Configurations -
Cumulative No Project Conditions

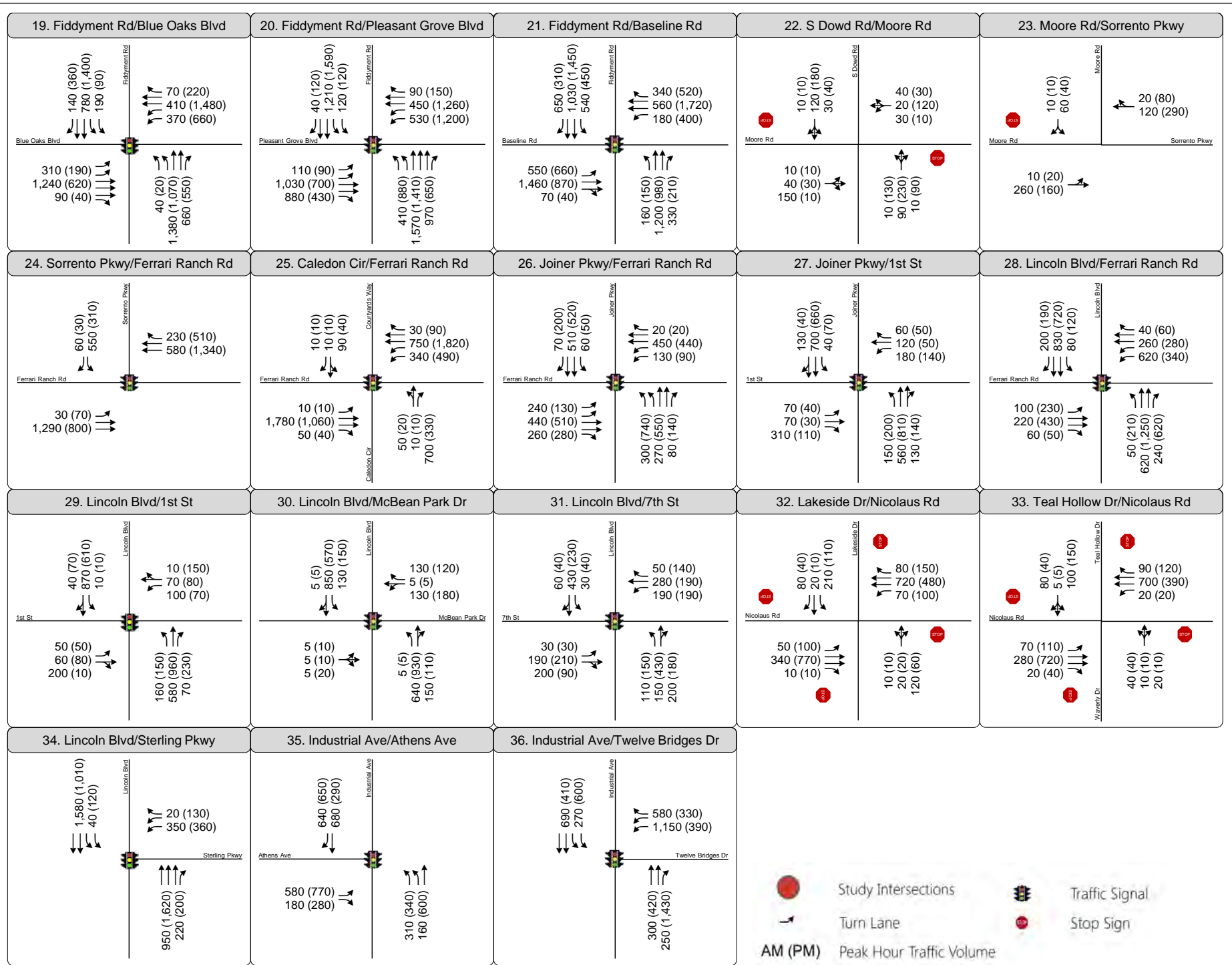
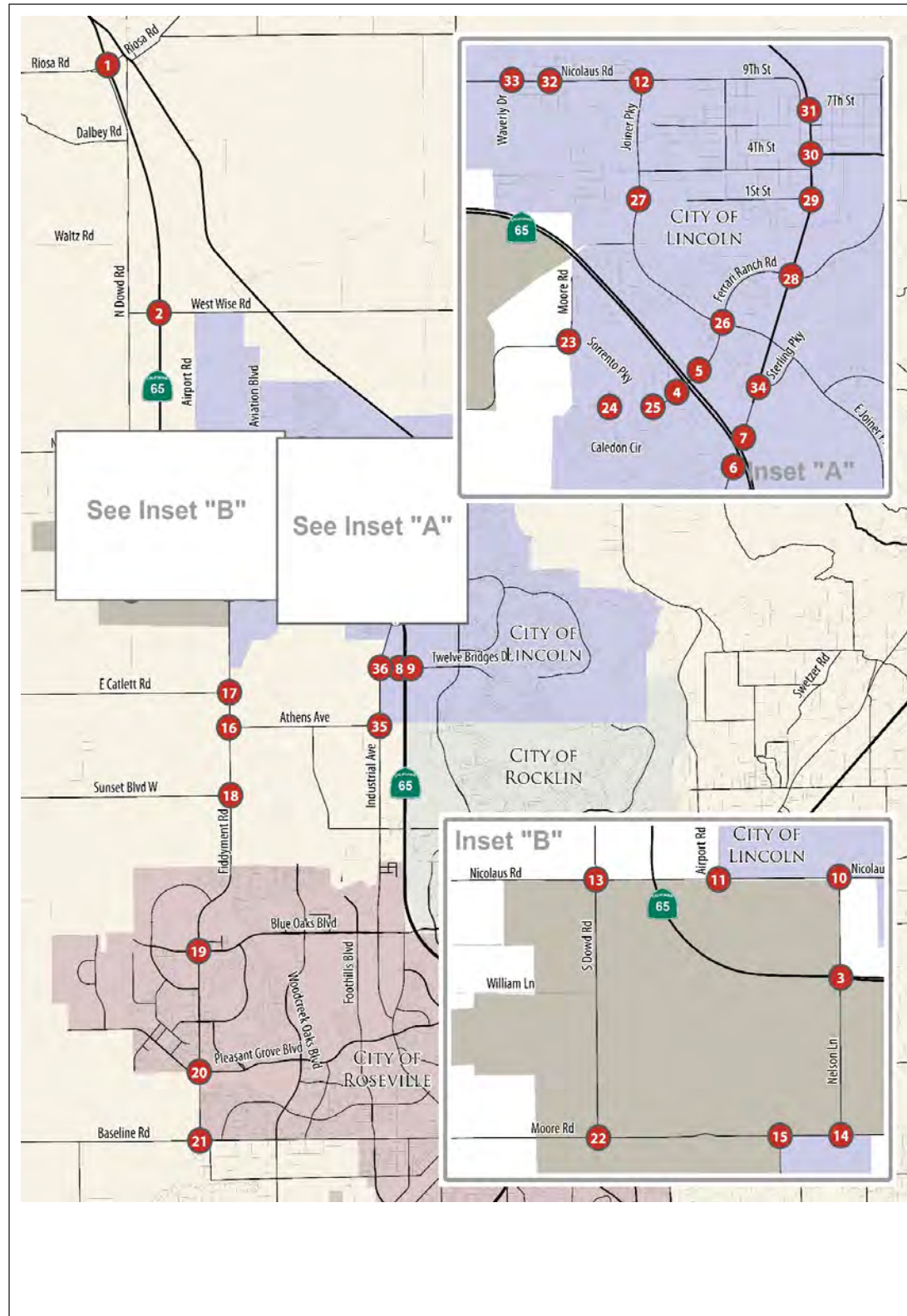


Figure 3.15-10B
Peak Hour Traffic Volumes and Lane Configurations -
Cumulative No Project Conditions

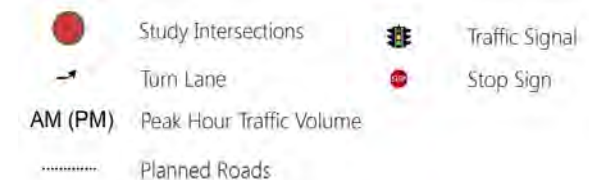
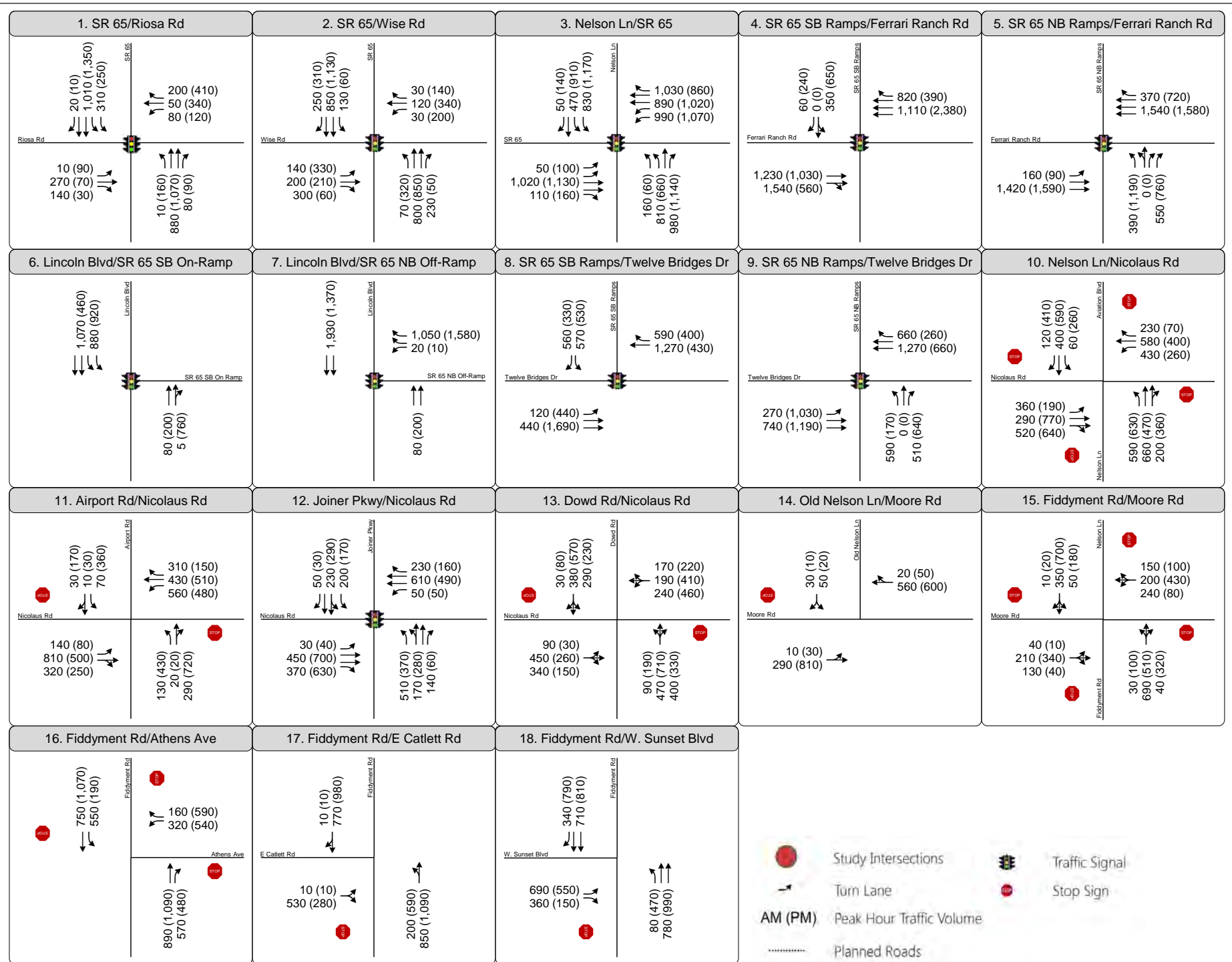
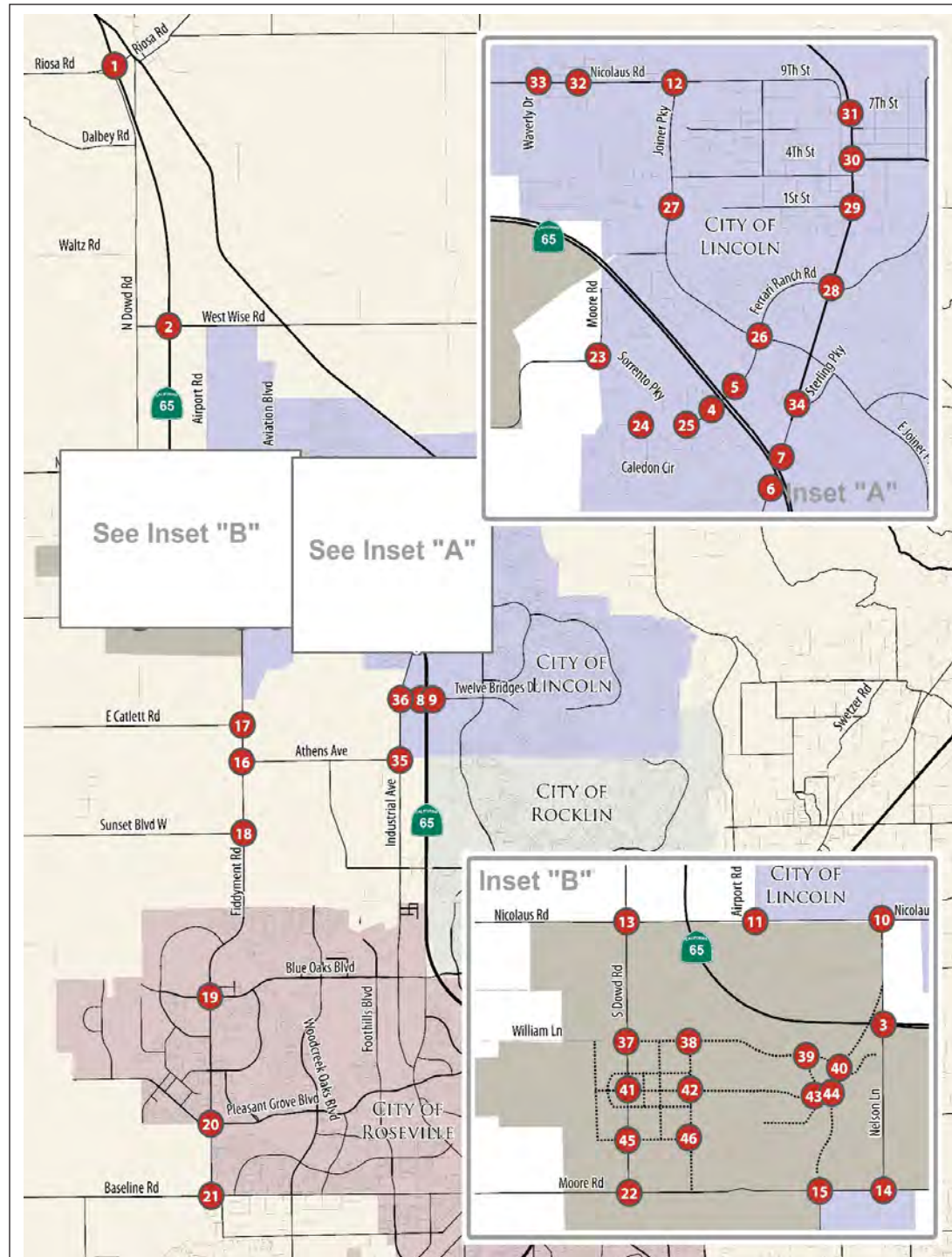


Figure 3.15-11A
Peak Hour Traffic Volumes and Lane Configurations - Cumulative (2035) Plus Project Conditions

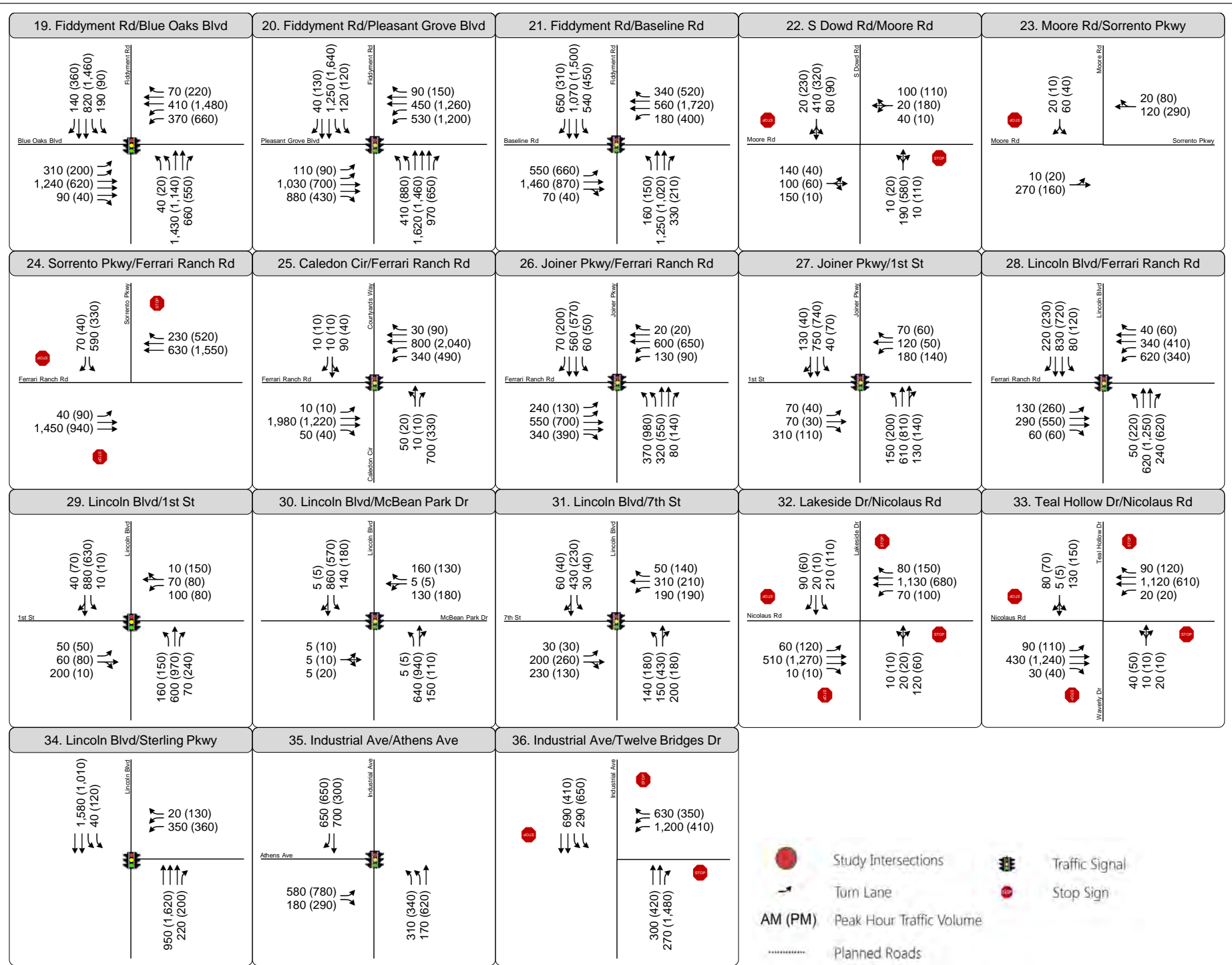
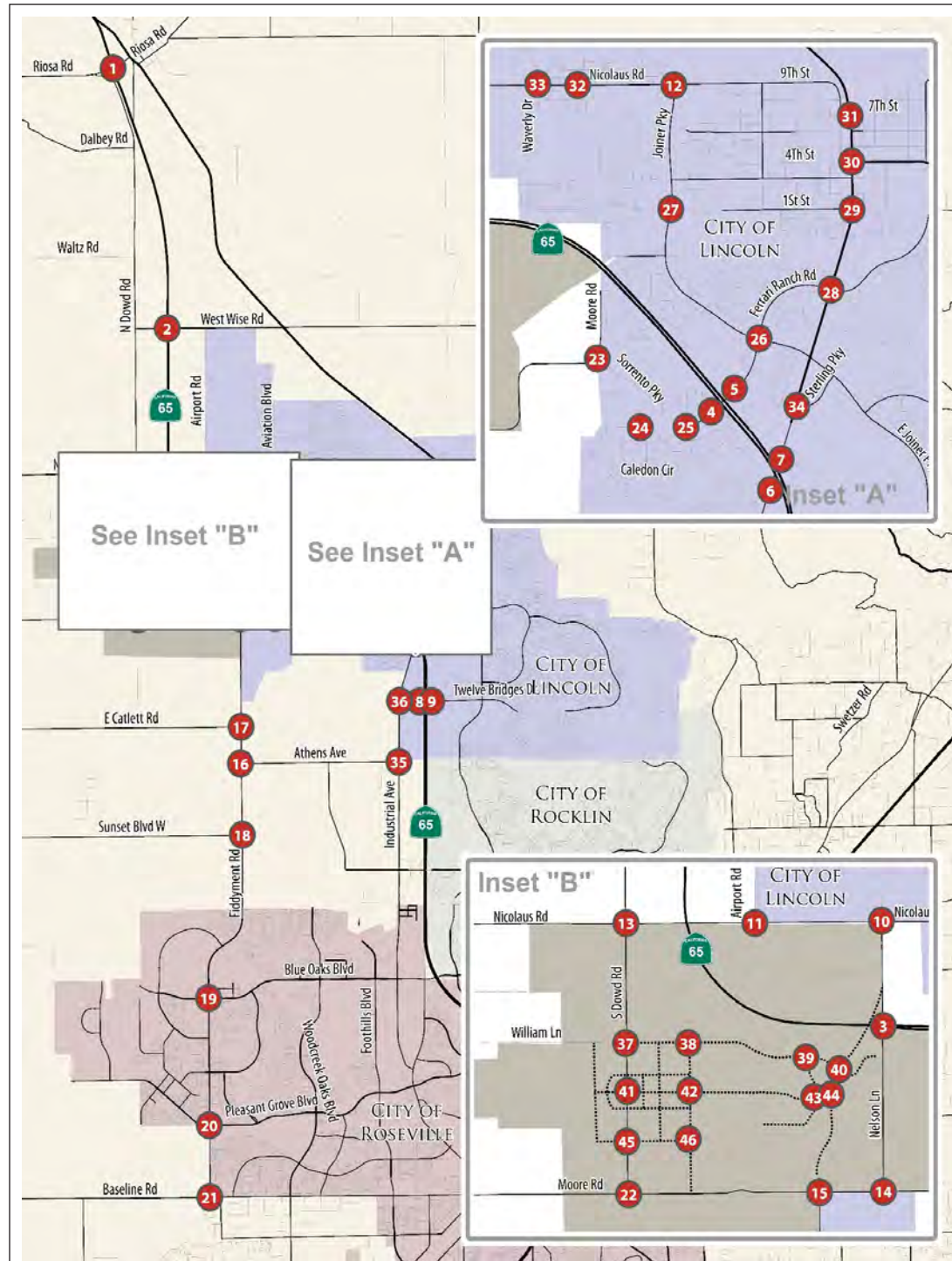


Figure 3.15-11B
Peak Hour Traffic Volumes and Lane Configurations - Cumulative (2035) Plus Project Conditions

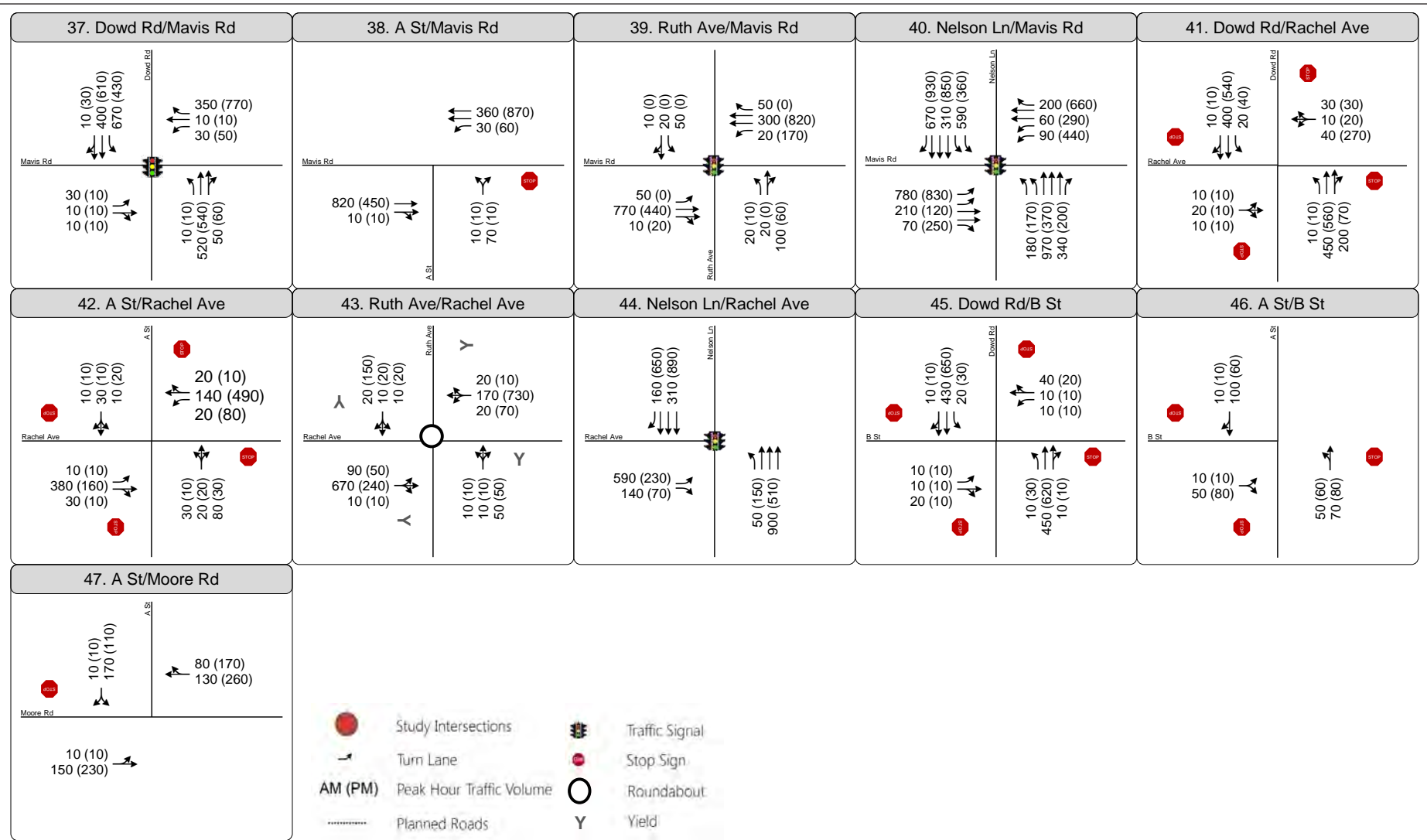
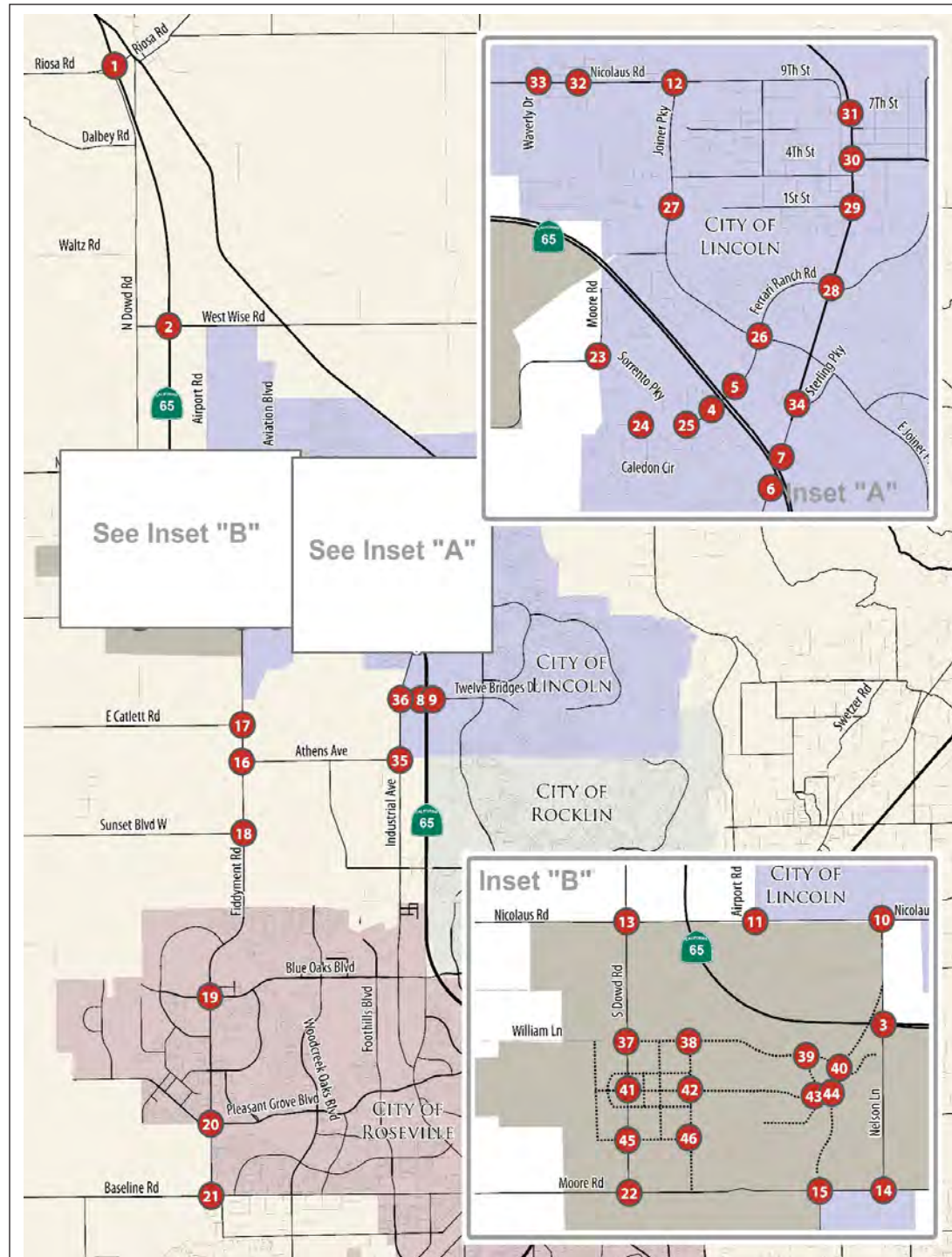


Figure 3.15-11C
Peak Hour Traffic Volumes and Lane Configurations - Cumulative (2035) Plus Project Conditions

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**TABLE 3.15-16.
INTERSECTION OPERATIONS – CUMULATIVE CONDITIONS**

Intersection	Jurisdiction	Traffic Control	Peak Hour	Cumulative No Project		Cumulative Plus Project	
				Delay	LOS	Delay	LOS
1. SR 65/Riosa Road	Caltrans	Signal	A.M.	21	C	25	C
			P.M.	36	D	42	D
2. SR 65/Wise Road	Caltrans	Signal	A.M.	21	C	23	C
			P.M.	39	D	76	E
3. Nelson Lane/SR 65	Caltrans	Signal	A.M.	55	D	<u>>150</u>	<u>F</u>
			P.M.	46	D	<u>>150</u>	<u>F</u>
4. SR 65 SB Ramps/Ferrari Ranch Rd.	Caltrans	Signal	A.M.	61	E	110	F
			P.M.	11	B	36	D
5. SR 65 NB Ramps/Ferrari Ranch Rd.	Caltrans	Signal	A.M.	18	B	19	B
			P.M.	28	C	32	C
6. SR 65 SB On-Ramp/Lincoln Blvd.	Caltrans	Signal	A.M.	5	A	5	A
			P.M.	25	C	25	C
7. SR 65 NB Off-Ramp/Lincoln Blvd.	Caltrans	Signal	A.M.	4	A	3	A
			P.M.	3	A	4	A
8. SR 65 SB Ramps/Twelve Bridges Dr.	Caltrans	Signal	A.M.	35	C	47	D
			P.M.	17	B	30	C
9. SR 65 NB Ramps/Twelve Bridges Dr.	Caltrans	Signal	A.M.	55	E	61	E
			P.M.	46	D	52	D
10. Nelson Lane/Nicolaus Road	City of Lincoln	AWSC	A.M.	85	F	89	F
			P.M.	87	F	91	F
11. Airport Road/Nicolaus Road	City of Lincoln	SSSC	A.M.	98	F	<u>>150</u>	<u>F</u>
			P.M.	<u>>150</u>	F	<u>>150</u>	<u>F</u>
12. Joiner Parkway/Nicolaus Road	City of Lincoln	Signal	A.M.	22	C	25	C
			P.M.	25	C	53	D
13. Dowd Road/Nicolaus Road	Unincorporated Placer County ³	SSSC	A.M.	9	A	12	B
			P.M.	11	B	11	B
14. Old Nelson Lane/Moore Road	Unincorporated Placer County ³	SSSC	A.M.	23	C	20	C
			P.M.	19	C	38	E
15. Fiddymment Road/Moore Road	Unincorporated Placer County ³	AWSC	A.M.	41	E	78	F
			P.M.	56	F	78	F
16. Fiddymment Road/Athens Avenue	Unincorporated Placer County	Signal	A.M.	54	D	110	F
			P.M.	45	D	125	F
17. Fiddymment Road/E. Catlett Road	Unincorporated Placer County	SSSC	A.M.	108	F	<u>>150</u>	<u>F</u>
			P.M.	20	C	<u>>150</u>	<u>F</u>
18. Fiddymment Road/W. Sunset Blvd.	Unincorporated Placer County	Signal	A.M.	22	C	27	C
			P.M.	142	F	145	F
19. Fiddymment Road/Blue Oaks Blvd.	City of Roseville	Signal	A.M.	63	E	63	E
			P.M.	76	E	85	F
20. Fiddymment Road/Pleasant Grove Blvd.	City of Roseville	Signal	A.M.	<u>>150</u>	F	<u>>150</u>	F
			P.M.	<u>>150</u>	F	<u>>150</u>	F

**TABLE 3.15-16.
INTERSECTION OPERATIONS – CUMULATIVE CONDITIONS**

Intersection	Jurisdiction	Traffic Control	Peak Hour	Cumulative No Project		Cumulative Plus Project	
				Delay	LOS	Delay	LOS
21. Fiddymt Road/Baseline Road	City of Roseville	Signal	A.M.	>150	F	>150	F
			P.M.	>150	F	>150	F
22. Dowd Road/Moore Road	Unincorporated Placer County ³	SSSC	A.M.	14	B	>150	F
			P.M.	29	D	>150	F
23. Sorrento Parkway/Moore Road	Unincorporated Placer County	SSSC	A.M.	12	B	12	B
			P.M.	13	B	13	B
24. Sorrento Parkway/Ferrari Ranch Road	City of Lincoln	Signal	A.M.	21	C	27	C
			P.M.	17	B	21	C
25. Caledon Circle/Ferrari Ranch Road	City of Lincoln	Signal	A.M.	>150	F	>150	F
			P.M.	36	D	38	D
26. Joiner Parkway/Ferrari Ranch Road	City of Lincoln	Signal	A.M.	25	C	29	C
			P.M.	28	C	43	D
27. Joiner Parkway/1st Street	City of Lincoln	Signal	A.M.	43	D	46	D
			P.M.	23	C	23	C
28. Lincoln Blvd./Ferrari Ranch Road	City of Lincoln	Signal	A.M.	21	C	22	C
			P.M.	37	D	41	D
29. Lincoln Blvd./1st Street	City of Lincoln	Signal	A.M.	66	E	69	E
			P.M.	33	C	26	C
30. Lincoln Blvd./McBean Park Drive	City of Lincoln	Signal	A.M.	28	C	34	C
			P.M.	57	E	56	E
31. Lincoln Blvd./7th Street	City of Lincoln	Signal	A.M.	30	C	42	D
			P.M.	28	C	32	C
32. Lakeside Drive/Nicolaus Road	City of Lincoln	AWSC	A.M.	25	C	48	E
			P.M.	20	C	47	E
33. Teal Hollow Drive/Nicolaus Road	City of Lincoln	AWSC	A.M.	14	B	34	D
			P.M.	15	B	43	E
34. Sterling Parkway/Lincoln Blvd.	City of Lincoln	Signal	A.M.	10	B	10	B
			P.M.	13	B	13	B
35. Industrial Avenue/Athens Avenue	Unincorporated Placer County	Signal	A.M.	56	E	58	E
			P.M.	129	F	126	F
36. Industrial Avenue/Twelve Bridges Dr.	Unincorporated Placer County	Signal	A.M.	20	B	16	B
			P.M.	18	B	15	B
37. Dowd Road/Mavis Road	City of Lincoln ⁴	Signal	A.M.	-	-	82	F
			P.M.	-	-	147	F
38. "A Street"/Mavis Road	City of Lincoln ⁴	SSSC	A.M.	-	-	15	B
			P.M.	-	-	18	C
39. Ruth Avenue/Mavis Road	City of Lincoln ⁴	Signal	A.M.	-	-	16	B
			P.M.	-	-	7	A
40. Nelson Lane/Mavis Road	City of Lincoln ⁴	Signal	A.M.	-	-	55	D
			P.M.	-	-	91	F

**TABLE 3.15-16.
INTERSECTION OPERATIONS – CUMULATIVE CONDITIONS**

Intersection	Jurisdiction	Traffic Control	Peak Hour	Cumulative No Project		Cumulative Plus Project	
				Delay	LOS	Delay	LOS
41. Dowd Road/Rachel Avenue	City of Lincoln ⁴	Signal	A.M.	-	-	9	A
			P.M.	-	-	14	B
42. "A Street"/Rachel Avenue	City of Lincoln ⁴	AWSC	A.M.	-	-	14	B
			P.M.	-	-	17	C
43. Ruth Avenue/Rachel Avenue	City of Lincoln ⁴	Roundabout	A.M.	-	-	15	C
			P.M.	-	-	19	C
44. Nelson Lane/Rachel Avenue	City of Lincoln ⁴	Signal	A.M.	-	-	15	B
			P.M.	-	-	20	C
45. Dowd Road/"B Street"	City of Lincoln ⁴	Signal	A.M.	-	-	5	A
			P.M.	-	-	5	A
46. "A Street"/"B Street"	City of Lincoln ⁴	AWSC	A.M.	-	-	8	A
			P.M.	-	-	8	A
47. Moore Road/"A Street"	City of Lincoln ⁴	SSSC	A.M.	-	-	13	B
			P.M.	-	-	16	C

NOTES:

- For signalized, roundabout, and all-way stop controlled (AWSC) intersections, average intersection delay is reported in seconds per vehicle for all approaches.
- For side-street stop controlled (SSSC) intersections, the LOS and average delay for the movement with the highest delay is reported, along with the overall intersection delay in parentheses.
- Intersections that are currently in unincorporated Placer County that would be incorporated into the City of Lincoln under existing plus project conditions.
- Proposed project Intersections that do not exist under existing conditions. They are assumed to be incorporated into the City of Lincoln under existing plus project conditions.
Delays greater than 2.5 minutes are reported as greater than 150 seconds due to model insensitivity for heavily congested conditions.
BOLD text indicates the intersection operates at an unacceptable LOS based on the presiding jurisdiction's level of service policy.
UNDERLINED text indicates a potentially significant impact based on the significance criteria.

SOURCE: Fehr & Peers, 2015.

Caltrans

- The following Caltrans intersections are anticipated to operate at LOS E or F under cumulative no project and/or cumulative plus project conditions:
 - SR 65 Southbound Ramps/Ferrari Ranch Road (#4): LOS E during the a.m. peak hour under cumulative no project conditions; LOS F during the a.m. peak hour under cumulative plus project conditions
 - SR 65 Northbound Ramps/Twelve Bridges Drive (#9): LOS E during the a.m. peak hour under both cumulative scenarios
- The following Caltrans intersections are anticipated to operate at LOS E or F under cumulative plus project conditions only:
 - SR 65/Wise Road (#2): LOS E during the p.m. peak hour under cumulative plus project conditions
 - SR 65/Nelson Lane (#3): LOS F during the a.m. and p.m. peak hours under cumulative plus project conditions

Placer County

- The following Placer County intersections are anticipated to operate at LOS D, E, or F under cumulative no project and/or cumulative plus project conditions:
 - Fiddymment Road/Athens Avenue (#16): LOS D during the a.m. and p.m. peak hours under cumulative no project conditions; LOS F during the a.m. and p.m. peak hours under cumulative plus project conditions
 - Fiddymment Road/E. Catlett Road (#17): LOS F during the a.m. peak hour under cumulative no project conditions; LOS F during the a.m. and p.m. peak hours under cumulative plus project conditions
 - Fiddymment Road/W. Sunset Boulevard (#18): LOS F during the p.m. peak hour under both cumulative scenarios
 - Industrial Avenue/Athens Avenue (#35): LOS E during the a.m. peak hour under both cumulative scenarios and LOS F during the p.m. peak hour under both cumulative scenarios

City of Roseville

- The following City of Roseville intersections are anticipated to operate at LOS D, E, or F under cumulative no project and cumulative plus project conditions:
 - Fiddymment Road/Blue Oaks Boulevard (#19): LOS E during the a.m. and p.m. peak hours under cumulative no project conditions; LOS E during the a.m. peak hour and LOS F during the p.m. peak hour under cumulative plus project conditions
 - Fiddymment Road/Pleasant Grove Boulevard (#20): LOS F during the a.m. and p.m. peak hours under both cumulative scenarios
 - Fiddymment Road/Baseline Road (#21): LOS F during the a.m. and p.m. peak hours under both cumulative scenarios

Roadways

Table 3.15-17 presents the daily traffic volumes for each roadway segment and the corresponding LOS under Cumulative No Project and Cumulative Plus Project Conditions. Based on the results presented in Table 3.15-17, the following roadway segments are anticipated to operate at LOS F under both Cumulative No Project and Cumulative Plus Project Conditions:

- Fiddymment Road – Moore Road to Athens Avenue
- Athens Avenue – Fiddymment Road to Foothills Boulevard

On both of the roadway segments listed above, the project's incremental contribution in traffic increases the volume to capacity ratio by more than 0.01.

The results presented in Table 3.15-17 are discussed in more detail in Impact 3.15-20.

**TABLE 3.15-17.
DAILY ROADWAY SEGMENT OPERATIONS – CUMULATIVE CONDITIONS**

Roadway Segment	Classification	Cumulative No Project			Cumulative Plus Project		
		Daily Traffic Volume	V/C	LOS	Daily Traffic Volume	V/C	LOS
Fiddymment Road							
Moore Road to Athens Avenue	2-lane Arterial	21,100	1.06	F	28,800	1.44	F
Athens Avenue to Roseville City Limits	4-lane Arterial	27,500	0.69	B	30,000	0.75	C
Athens Avenue							
Fiddymment Road to Foothills Boulevard	2-lane Arterial	22,400	1.12	F	23,000	1.15	F

NOTES:

1. High-Access Controlled Arterial, per the definition outlined in Table 4-16 of the Placer County Countywide General Plan Final EIR.
2. V/C = Volume-to-capacity ratio.
3. Level of service based on thresholds presented in Table 3.15-3 from the Placer County Countywide General Plan Final EIR.

SOURCE: Fehr & Peers, 2015

Highways

Table 3.15-18 presents the a.m. and p.m. peak hour traffic volumes for each highway segment and the corresponding LOS under cumulative no project and cumulative plus project conditions. Based on the results presented in Table 3.15-18, all study highway segments operate at an acceptable LOS based on the Concept LOS identified in the SR 65 CSMP. SR 65 north of Riosa Road operates at LOS E under both cumulative scenarios, which is considered acceptable per the SR 65 CSMP. SR 65 from Nelson Lane to Riosa Road operates at an acceptable LOS B or better for both the cumulative scenarios.

Freeways

Table 3.15-19 presents the a.m. and p.m. peak hour traffic operations on the study freeway segments under cumulative no project and cumulative plus project conditions.

The following summarizes the key intersection traffic operations results on the study freeway segments:

- SR 65 Northbound during the a.m. peak hour: the merge segments at the Placer Parkway loop on-ramp and Whitney Ranch Parkway on-ramp are anticipated to operate at LOS D, while the freeway segments from Placer Parkway to the Twelve Bridges Drive off-ramp are anticipated to operate at LOS E under cumulative no project conditions. The project's incremental contribution under cumulative plus project conditions is anticipated to degrade the traffic operations to LOS F conditions from the Whitney Ranch Parkway on-ramp to the Twelve Bridges Drive off-ramp.

**TABLE 3.15-18.
HIGHWAY OPERATIONS – CUMULATIVE CONDITIONS**

Location	Peak Hour	Direction	Cumulative No Project			Cumulative Plus Project		
			Performance Metric		LOS	Performance Metric		LOS
State Route 65 – Two Lane Highway ¹			PTSF	ATS (mph)		PTSF	ATS (mph)	
North of Riosa Road	A.M.	Combined	93	35	E	95	33	E
	P.M.	Combined	94	33	E	96	29	E
State Route 65 – Multilane Highway ²			Density (pcpmp)			Density (pcpmp)		
Riosa Road to Wise Road	A.M.	Northbound	8		A	9		A
		Southbound	10		A	12		B
	P.M.	Northbound	9		A	13		B
		Southbound	12		B	14		B
Wise Road to Nelson Lane	A.M.	Northbound	10		A	11		A
		Southbound	10		A	11		B
	P.M.	Northbound	10		A	11		B
		Southbound	12		B	13		B

NOTES:

1. Percent Time Spent Following (PTSF), Average Travel Speed (ATS), and LOS are calculated for two-lane highway segments using the methodologies and procedures in the Highway Capacity Manual (Transportation Research Board, 2010).
2. Density is reported in passenger car equivalents per mile per lane (pcpmp). Directional densities and LOS results for multilane highway segments are calculated using the methodologies and procedures in the Highway Capacity Manual (Transportation Research Board, 2010).

SOURCE: Fehr & Peers, 2015

**TABLE 3.15-19.
FREEWAY OPERATIONS – CUMULATIVE CONDITIONS**

Location	Segment Type	Peak Hour	Cumulative No Project		Cumulative Plus Project	
			Density ¹	LOS	Density ¹	LOS
Northbound SR 65						
Sunset Blvd. to Placer Parkway	Weave ²	A.M.	-	D	-	D
	Basic ³	P.M.	20	C	24	C
Placer Parkway Loop On-Ramp	Merge	A.M.	32	D	39	E
		P.M.	38	E	-	F
Whitney Ranch Pkwy. Slip On-Ramp	Merge	A.M.	30	D	-	F
		P.M.	-	F	-	F
Placer Pkwy. to Twelve Bridges Dr.	Basic	A.M.	36	E	-	F
		P.M.	-	F	-	F
Twelve Bridges Drive Off-Ramp	Diverge	A.M.	38	E	-	F
		P.M.	-	F	-	F
Twelve Bridges Drive to Lincoln Blvd.	Weave ²	A.M.	-	D	-	E
		P.M.	-	F	-	F
Ferrari Ranch Road Off-Ramp	Diverge	A.M.	14	B	18	C
		P.M.	18	B	22	C
Ferrari Ranch Road On-Ramp	Merge	A.M.	16	B	26	C
		P.M.	16	B	26	C
Ferrari Ranch Road to Nelson Lane	Basic	A.M.	14	B	24	C
		P.M.	14	B	24	C

**TABLE 3.15-19.
FREEWAY OPERATIONS – CUMULATIVE CONDITIONS**

Location	Segment Type	Peak Hour	Cumulative No Project		Cumulative Plus Project	
			Density ¹	LOS	Density ¹	LOS
Southbound SR 65						
Nelson Lane to Ferrari Ranch Road	Basic	A.M.	14	B	23	C
		P.M.	17	B	29	D
Ferrari Ranch Road Off-Ramp	Diverge	A.M.	18	B	29	D
		P.M.	22	C	34	D
Ferrari Ranch Road Loop On-Ramp	Basic	A.M.	13	B	18	B
		P.M.	11	A	16	B
Ferrari Ranch Road Slip On-Ramp	Merge	A.M.	24	C	29	D
		P.M.	15	B	20	B
Lincoln Blvd. to Twelve Bridges Drive	Weave ²	A.M.	-	E	-	<u>F</u>
		P.M.	-	E	-	<u>F</u>
Twelve Bridges Drive On-Ramp	Merge	A.M.	-	F	-	F
		P.M.	-	F	-	F
Twelve Bridges Dr. to Placer Pkwy.	Basic	A.M.	44	E	-	F
		P.M.	43	E	-	F
Placer Parkway Off-Ramp	Diverge	A.M.	-	F	-	F
		P.M.	-	F	-	F
Whitney Ranch Pkwy. Loop On-Ramp	Merge	A.M.	35	D	-	F
		P.M.	35	E	-	F
Placer Parkway to Sunset Blvd.	Basic ³	A.M.	21	C	26	D
		P.M.	22	C	27	D

NOTES:

- Density is reported in passenger car equivalents per mile per lane (pcmppl). Density is unable to be calculated for LOS F conditions.
- Per Caltrans' *Guide for the Preparation of Traffic Impact Studies*, weave sections are analyzed using the Leisch Method as described in Chapter 500 of the *Highway Design Manual*. Weave LOS results are based on service volume (density not calculated).
- Based on the Leisch Method analysis, these weave segments are analyzed as basic segments because the weave calculation indicates that the segment falls outside the realm of weaving.
BOLD text indicates the freeway segment operates at an unacceptable LOS based on the Concept LOS presented in the SR 65 CSMP.
UNDERLINED text indicates a potentially significant impact based on the significance criteria.

SOURCE: Fehr & Peers, 2015

- SR 65 Northbound during the p.m. peak hour: the merge segment at the Placer Parkway loop on-ramp is anticipated to operate at LOS E, while the freeway segments north of Placer Parkway from the Whitney Ranch Parkway on-ramp to Lincoln Boulevard off-ramp are anticipated to operate at LOS F under cumulative no project conditions. The project's incremental contribution under cumulative plus project conditions is anticipated to add more than 700 peak hour vehicles of demand during the p.m. peak hour to these segments, causing worse LOS F conditions from the Placer Parkway loop on-ramp to the Lincoln Boulevard off-ramp.
- SR 65 Southbound – the southbound direction of SR 65 is anticipated to operate at LOS E or F conditions from the Lincoln Boulevard on-ramp to the Placer Parkway off-ramp during both the a.m. and p.m. peak hours under cumulative no project conditions. The project's incremental contribution under cumulative plus project conditions is anticipated to add more than 800 peak hour vehicles of demand during both the a.m. and p.m. peak hour to these segments, causing worse LOS F conditions from the Lincoln Boulevard on-ramp to the Whitney Ranch Parkway loop on-ramp.

As shown in Table 3.15-19 and described above, several segments of SR 65 between Placer Parkway and Lincoln Boulevard are anticipated to operate at either LOS E or F conditions under both cumulative no project and cumulative plus project conditions. The segments of LOS F operations are considered unacceptable. The project's incremental contribution under cumulative plus project conditions further degrades the anticipated LOS F operations.

Impacts and Mitigation Measures

This section describes the project-specific impacts of the proposed project. The significance of each impact is identified, followed by the recommended mitigation measure(s), if necessary and/or available. The residual significance (i.e., significance after mitigation) is then identified. Supporting technical calculations are located in Appendix L of this Draft EIR.

Impact 3.15-1: Implementation of the proposed project would increase traffic levels at intersections under the City of Lincoln's jurisdiction operating at an acceptable LOS under existing conditions.

Per the results presented in Table 3.15-12, the vehicle traffic added by the proposed project causes six City of Lincoln intersections operating at an acceptable LOS under existing conditions to operate at an unacceptable LOS under existing plus project conditions. This is considered a **potentially significant** impact.

The following list identifies the intersections that are significantly impacted by traffic generated by the proposed project during each peak hour:

AM Peak Hour

- Nelson Lane/Nicolaus Road (#10) – LOS C to LOS F
- Airport Road/Nicolaus Road (#11) – LOS B to LOS F
- Dowd Road/Nicolaus Road (#13) – LOS B to LOS F
- Dowd Road/Moore Road (#22) – LOS A to LOS D
- Lakeside Drive/Nicolaus Road (#32) – LOS B to LOS D

PM Peak Hour

- Nelson Lane/Nicolaus Road (#10) – LOS C to LOS F
- Airport Road/Nicolaus Road (#11) – LOS B to LOS F
- Dowd Road/Nicolaus Road (#13) – LOS B to LOS F
- Fiddymment Road/Moore Road (#15) – LOS A to LOS E

Mitigation Measures

Mitigation Measure 3.15-1

The project applicants shall pay their fair share cost towards the following improvements. These improvements are included in the City's updated PFE fee program. Therefore, PFE credits would be given to the constructing party. Alternatively, the City may require the project applicants to construct the improvements and provide them with a right of reimbursement from third parties who also benefit from the improvements. The development agreement between the City and project applicants shall specify the timing of the fair share payment or construction of these improvements, with the required timing prior to the service level degrading to LOS D, as determined by a traffic study to be funded by the project applicants.

If, in the alternative to paying the applicable PFE fees, the project applicant(s) are required to construct improvements, the following improvements would be required to restore operations to an acceptable level at each intersection.

- a) *Nelson Lane/Nicolaus Road (#10):*
- *Signalize the intersection when signal warrants are met. To achieve LOS C operations, it may be necessary to provide protected left-turn movements and a right-turn overlap phase for eastbound right turn movements. Northbound U-turn movements would need to be prohibited to allow for the eastbound right-turn overlap phase. Signalizing this intersection was identified in the previous PFE fee program for Transportation and is included in the updated PFE.²⁷*
 - *Restripe the southbound approach to provide the following lane configurations:*
 - i. *One left-turn lane, one through lane, and one shared through-right turn lane*
 - *Reconfigure the south leg of the intersection to provide the following lane configurations:*
 - i. *Two northbound left turn pocket lanes*
 - ii. *One northbound through lane*
 - iii. *One northbound trap-right turn lane*
 - iv. *Two southbound receiving lanes*
 - *Reconfigure the east leg of the intersection to provide a second westbound left-turn lane*
 - *Reconfigure the west leg of the intersection to include the following:*

²⁷ City of Lincoln, 2012. City of Lincoln Public Facilities Element Fee Program Nexus Study Update. February 9, 2012. Table B-5, Project R-32G.

- i. *Restripe the eastbound shared through-right turn lane into a dedicated right-turn lane. This would result in one left-turn lane, one through lane, and one right-turn lane.*
 - ii. *Add a second westbound receiving lane*
- b) *Airport Road/Nicolaus Road (#11):*
 - *Signalize the intersection when signal warrants are met. If necessary to achieve LOS C operations, provide protected phasing for left-turn movements. Signalizing this intersection was identified in the previous PFE fee program for Transportation and is included in the updated PFE.²⁸*
 - *Widen the southbound approach to add a southbound left-turn pocket*
 - *Widen the south leg of the intersection to include the following:*
 - i. *One northbound left turn pocket lane*
 - ii. *One northbound through lane*
 - iii. *One northbound channelized free right turn lane*
 - iv. *Two southbound receiving lanes*
 - *Widen the east leg of the intersection to include the following:*
 - i. *Two westbound left turn lanes (one trap lane; one pocket lane)*
 - ii. *Restripe the existing westbound lane to a through-right lane*
 - iii. *Two eastbound receiving lanes (one from the eastbound through lane and one from the northbound free right-turn lane)*
 - *Widen the eastbound approach to include one left-turn pocket lane, one through lane, and one-right turn pocket lane.*
- c) *Dowd Road/Nicolaus Road (#13):*
 - *Signalize the intersection when signal warrants are met. If necessary to achieve LOS C operations, provide protected phasing for left-turn movements. Signalizing this intersection is identified in the Village 5 Specific Plan, and is included in the updated PFE.*
 - *Widen the southbound approach to add a southbound left-turn pocket*
 - *Widen the south leg of the intersection to include the following improvements:*
 - i. *One northbound left turn pocket lane*
 - ii. *One northbound through lane*
 - iii. *One northbound trap right turn lane*
 - iv. *Two southbound receiving lanes*

²⁸ Ibid., Table B-5, Project R-31S.

- *Widen the east leg of the intersection to include the following improvements:*
 - i. Two westbound left turn lanes (one trap lane; one pocket lane)*
 - ii. Restripe the existing westbound lane to a through-right lane*
 - *Widen the eastbound approach to include one left-turn pocket lane, one shared through-right turn lane.*
- d) Fiddymont Road/Moore Road (#15):*
- *Widen the southbound approach to add a southbound right-turn pocket*
- e) Dowd Road/Moore Road (#22):*
- *Change the traffic control to side-street stop control for Moore Road, and free movements on Dowd Road (existing configuration is free movements on Moore Road and side-street stop control for Dowd Road).*
- f) Lakeside Drive/Nicolaus Road (#32):*
- *Signalize the intersection when signal warrants are met. Signalizing this intersection was identified in the previous PFE fee program for Transportation and is included in the updated PFE.²⁹*

Table 3.15-20 presents the resulting intersection operations with these improvements in place.

Impact Significance After Mitigation: With the implementation of the improvements listed in Mitigation Measures 3.15-1(a) through 3.15-1(f) above, the traffic operations at the impacted intersections would be improved to acceptable operations. Alternatively, Mitigation Measure 3.15-1 would commit the project applicant(s) to pay their fair share towards these improvements through the City of Lincoln’s PFE fee program and ensure that they are constructed prior to the service level degrading to an unacceptable LOS D or worse. Therefore, this impact to vehicle traffic operations would be reduced to a **less than significant** level.

Resulting Potentially Significant Impact of Mitigation on Intersections # 11 and #13. The improvements to widen the intersections at Airport Road/Nicolaus Road (#11) and Dowd Road/Nicolaus Road (#13) would increase the crossing distance for bicycles and pedestrians. This would increase the conflict zone of bicyclists and pedestrians with vehicles possibly resulting in safety concerns for bicyclists and pedestrians attempting to cross the widened streets. Pursuant to General Plan Policy T-2.3, the City may make an exception to a degraded vehicle LOS where the results of achieving the desired LOS C traffic operations are contrary to achieving a functional and safe pedestrian design. Additionally, the effects of the improvements proposed in Mitigation Measure 3.15-1 (b) and (c) may result in a conflict with General Plan Policy T-5.3, which states the City’s desire to improve bicycle safety by minimizing conflicts with vehicles and bicycles. These effects would be considered a **significant** impact.

²⁹ Ibid., Table B-5, Project R-32E.

**TABLE 3.15-20.
CITY OF LINCOLN INTERSECTION OPERATIONS –
EXISTING PLUS PROJECT CONDITIONS WITH MITIGATION**

Intersection	Jurisdiction	Peak Hour	Existing Conditions		Existing Plus Project		Existing Plus Project with Mitigation	
			Delay	LOS	Delay	LOS	Delay	LOS
10. Nelson Lane/Nicolaus Road	City of Lincoln	A.M.	19	C	69	F	28	C
		P.M.	18	C	64	F	31	C
11. Airport Road/Nicolaus Road	City of Lincoln	A.M.	10	B	<u>>150</u>	F	26	C
		P.M.	10	B	<u>>150</u>	F	32	C
13. Dowd Road/Nicolaus Road	Unincorporated Placer County ³	A.M.	10	B	<u>>150</u>	F	33	C
		P.M.	11	B	<u>>150</u>	F	27	C
15. Fiddyment Road/Moore Road	Unincorporated Placer County ³	A.M.	8	A	21	C	21	C
		P.M.	8	A	41	E	24	C
22. Dowd Road/Moore Road	Unincorporated Placer County ³	A.M.	9	A	32	D	24	C
		P.M.	9	A	24	C	24	C
32. Lakeside Drive/Nicolaus Road	City of Lincoln	A.M.	13	B	34	D	11	B
		P.M.	9	A	25	C	7	A

NOTES:

1. For signalized and all-way stop controlled intersections, average intersection delay is reported in seconds per vehicle for all approaches.
2. Per the HCM, the LOS and average delay for the lane with the highest delay is reported for side-street stop controlled intersections.
3. Intersections that are currently in unincorporated Placer County that would be incorporated into the City of Lincoln under existing plus project conditions.

BOLD text indicates the intersection operates at an unacceptable LOS based on the presiding jurisdiction's level of service policy.

UNDERLINED text indicates a potentially significant impact based on the significance criteria.

SOURCE: Fehr & Peers, 2015.

Additional Mitigation to Reduce Impacts of Mitigation Measures 3.15-1 (b) and (c) to Intersections #11 and #13: One of the following options shall be implemented:

Option 1

- g) *The City shall monitor traffic conditions at the intersections of Airport Road/Nicolaus Road (#11) and Dowd Road/Nicolaus Road (#13). In addition to compliance with Mitigation Measures 3.15-1(b) and (c), the City shall cause one of the following measures to be taken prior to the service level degrading to LOS D, as determined by a traffic study at each location to be funded by the project applicant(s):*
- The project applicant(s) shall coordinate with the City staff to ensure signal phasing times would allow adequate time for cyclists to cross through the widened intersections during green and amber signal phases; or*
 - The project applicants' intersection designs shall eliminate free right-turn movements in exchange for right-turn overlap phases or dual right turn lanes to serve high right-turn traffic volumes. Any dual right-turn lanes shall be designed*

to ensure adequate visibility of pedestrians, including any use of a channelized right-turn lane for the inside right-turn lane.

Option 2

- g) *The project applicant(s) shall apply to the Community Development Director for a determination as to whether the recommended intersection widening conflicts with the City's Policy T-2.3 and T-5.3 to achieve a traffic design to minimize conflicts between vehicles and pedestrians and bicycles. The Community Development Director may determine that an exception to the LOS C standard in Policy T-2.3 is warranted.*

Impact Significance After Additional Mitigation for Intersections #11 and #13:

Option 1: With the implementation of one of the additional improvements listed in Mitigation Measures 3.15-1(1-g) above, the traffic operations at intersections #11 and #13 would be improved to acceptable operations without impacts to pedestrians and bicycles despite the widening by giving them additional time to get across the widened intersections or by requiring vehicles to stop or yield prior to turning right. Therefore, the impact of intersection widening to pedestrians and bicyclists would be reduced to a **less than significant** level.

Option 2: If the City's Community Development Director determines pedestrian and/or bike safety has not been adequately addressed, s/he may make an exception to the LOS C standard pursuant to General Plan Policy T-2.3. While doing so would not result in increased impacts to other intersection, it would still create increased delay at intersections #11 and #13 because the LOS would be increased above C. Therefore, this impact would be considered a **significant and unavoidable impact**.

Impact 3.15-2: Implementation of the proposed project would increase traffic levels at intersections under the City of Lincoln's jurisdiction operating at an unacceptable LOS under existing conditions.

The proposed project would add traffic to the Caledon Circle/Ferrari Ranch Road (#25) intersection, which operates at an unacceptable LOS E during the a.m. peak hour under existing conditions. However, the addition of the proposed project traffic would only result in an increase of four seconds of average vehicle delay during the a.m. peak hour, as shown in Table 3.15-12. Based on the significance criteria for City of Lincoln intersections, this incremental addition in average vehicle delay is considered below the significance threshold of five seconds or more increase in average vehicle delay for an intersection that is already operating at an unacceptable LOS without the project. Therefore, this impact would be considered **less than significant**.

Mitigation Measure

None required.

Impact 3.15-3: Implementation of the proposed project would increase traffic levels at future City of Lincoln intersections in Village 5.

The proposed project would add traffic to the roadway network within Village 5. The future Nelson Lane/Mavis Road (#40) intersection is anticipated to operate at an unacceptable LOS E during the a.m. peak hour and LOS F during the p.m. peak hour with build out of the proposed project with the following lane configurations:

- Northbound: two left-turn lanes, three through lanes, one right-turn lane
- Southbound: two left-turn lanes, three through lanes, one right-turn lane
- Eastbound: two left-turn lanes, two through lanes, one right-turn lane
- Westbound: two left-turn lanes, two through lanes, one right-turn lane

This is considered a **potentially significant** impact.

Mitigation Measure**Mitigation Measure 3.15-3**

The City shall monitor traffic conditions at the future Nelson Lane/Mavis Road intersection (#40) and shall cause the following improvements to be constructed prior to the service level degrading to LOS D:

- *Southbound: channelize the right-turn lane and add a merge lane on westbound Mavis Road to allow “free” right-turn operations*
- *Eastbound: widen the eastbound approach to include a third left turn lane*
- *Westbound: channelize the right-turn lane and add a merge lane on northbound Nelson Lane to allow “free” right-turn operations.*

The development agreement between the City and project applicants shall specify the timing of the construction of these improvements, with the required timing prior to the service level degrading to LOS D, as determined by a traffic study to be funded by the project applicants.

Table 3.15-21 presents the resulting intersection operations with these improvements in place.

**TABLE 3.15-21.
VILLAGE 5 INTERSECTION OPERATIONS –
EXISTING PLUS PROJECT CONDITIONS WITH MITIGATION**

Intersection	Jurisdiction	Peak Hour	Existing Conditions		Existing Plus Project		Existing Plus Project with Mitigation	
			Delay	LOS	Delay	LOS	Delay	LOS
40. Nelson Lane/Mavis Road	City of Lincoln ⁴	A.M.			64	<u>E</u>	35	C
		P.M.			138	<u>F</u>	30	C

NOTES:

1. Average intersection delay is reported in seconds per vehicle for all approaches.
2. **BOLD** text indicates the intersection operates at an unacceptable LOS based on the presiding jurisdiction's level of service policy.
3. UNDERLINED text indicates a potentially significant impact based on the significance criteria.
4. proposed project Intersections that do not exist under existing conditions. They are assumed to be incorporated into the City of Lincoln under existing plus project conditions.

SOURCE: Fehr & Peers, 2015.

Impact Significance After Mitigation: With the implementation of Mitigation Measure 3.15-3, the traffic operations at the impacted intersection would be improved to acceptable operations. Therefore, this impact to vehicle traffic operations would be reduced to a **less-than-significant** level.

Resulting Potentially Significant Impact of Mitigation 3.15-3 for Intersection # 40. The improvements to widen the intersection at Nelson Lane/Mavis Road (#40) would increase the crossing distance for bicycles and pedestrians. Moreover, the addition of free right-turn operations at Nelson Lane/Mavis Road (#40) would also increase the conflict zone for pedestrians and bicycles, possibility resulting in more vehicle/pedestrian/bike collisions. This would increase the conflict zone of bicyclists and pedestrians with vehicles possibly resulting in safety concerns for bicyclists and pedestrians attempting to cross the widened intersection. Pursuant to General Plan Policy T-2.3, the City may make an exception to a degraded vehicle LOS where the results of achieving the desired LOS C traffic operations are contrary to achieving a functional and safe pedestrian design. Additionally, the effects of the improvements proposed in Mitigation Measure 3.15-3 may result in a conflict with General Plan Policy T-5.3, which states the City's desire to improve bicycle safety by minimizing conflicts with vehicles and bicycles. These effects would be considered a **significant** impact.

Additional Mitigation to Reduce Impacts to Intersection #40 If Widened:

Option 1

The City shall monitor traffic conditions at the intersection of Nelson Lane/Mavis Road (#40). In addition to compliance with Mitigation Measures 3.15-3, the City shall cause one of the following measures to be taken prior to the service level degrading to LOS D, as determined by a traffic study at each location to be funded by the project applicant(s):

- a) *The project applicant(s) shall coordinate with the City staff to ensure signal phasing times would allow adequate time for cyclists to cross through the widened intersections during green and amber signal phases; or*
- b) *The project applicants' intersection designs shall eliminate free right-turn movements in exchange for right-turn overlap phases or dual right turn lanes to serve high right-turn traffic volumes. Any dual right-turn lanes shall be designed to ensure adequate visibility of pedestrians, including any use of a channelized right-turn lane for the inside right-turn lane.*

Option 2

The project applicant(s) may apply to the Community Development Director for a determination as to whether the recommended intersection widening conflicts with the City's Policy T-2.3 and T-5.3 to achieve a traffic design to minimize conflicts between vehicles and pedestrians and bicycles. The Community Development Director may determine that an exception to the LOS C standard in Policy T-2.3 is warranted.

Impact Significance After Additional Mitigation for Intersection #40.

Option 1: With the implementation of one of the additional improvements listed in Mitigation Measures 3.15-3(1) above, the traffic operations at intersection #40 would be improved to acceptable operations without impacts to pedestrians and bicycles despite the widening by giving them additional time to get across the widened intersections or by requiring vehicles to stop or yield prior to turning right. Therefore, the impact of intersection widening to pedestrians and bicyclists would be reduced to a **less than significant** level.

Option 2: If the City's Community Development Director determines pedestrian and/or bike safety has not been adequately addressed, s/he may make an exception to the LOS C standard pursuant to General Plan Policy T-2.3. While doing so would not result in increased impacts to other intersection, it would still create increased delay at intersection #40 because the LOS would be increased above C. Therefore, this impact would be considered a **significant and unavoidable impact**.

Impact 3.15-4: Implementation of the proposed project would increase traffic levels at intersections under the County of Placer's jurisdiction.

The vehicle traffic added by the proposed project would cause two County of Placer intersections operating at an acceptable LOS under existing conditions to operate at an unacceptable LOS under existing plus project conditions. This is considered a **potentially significant** impact.

The following list identifies the intersections that would be significantly impacted by traffic generated by the proposed project during each peak hour:

AM Peak Hour

- Fiddymment Road/Athens Avenue (#16) – LOS A to LOS E
- Fiddymment Road/W. Sunset Boulevard (#18) – LOS B to LOS D

PM Peak Hour

- Fiddymment Road/Athens Avenue (#16) – LOS B to LOS F
- Fiddymment Road/W. Sunset Boulevard (#18) – LOS C to LOS F

Mitigation Measures**Mitigation Measure 3.15-4**

The project applicants shall pay their fair share cost towards the following recommended improvements to restore vehicle traffic operations to an acceptable LOS at each intersection.

a) Fiddymment Road/Athens Avenue (#16):

- *Widening of the northbound approach to include a right-turn pocket lane*
- *Widening of the southbound approach to include a left-turn pocket lane*
- *Signalization at the intersection with a protected southbound left-turn movement.*

There is no funding program in place for these improvements. Accordingly, the project applicant(s) shall obtain cost estimates for these improvements and determine its/their fair share payments. Once the fair share has been determined, the project applicant(s) shall pay that fair share to the City to ensure the payment goes to the above-referenced improvements.

b) Fiddymment Road/W. Sunset Boulevard (#18):

- *Widening of the northbound approach to include a left-turn pocket lane*
- *Signalization at the intersection with a protected northbound left-turn movement.*

There is no funding program in place for these improvements. Accordingly, the project applicant(s) shall obtain cost estimates for these improvements and determine its/their fair share payments. Once the fair share has been determined, the project applicant(s) shall pay that fair share to the City to ensure the payment goes to the above-referenced improvements.

Table 3.15-22 presents the resulting intersection operations with these improvements in place.

**TABLE 3.15-22.
COUNTY OF PLACER INTERSECTION OPERATIONS –
EXISTING PLUS PROJECT CONDITIONS WITH MITIGATION**

Intersection	Jurisdiction	Peak Hour	Existing Conditions		Existing Plus Project		Existing Plus Project with Mitigation	
			Delay	LOS	Delay	LOS	Delay	LOS
16. Fiddymment Road/Athens Avenue	Unincorporated Placer County	A.M.	10	A	<u>45</u>	<u>E</u>	14	B
		P.M.	13	B	66	F	24	C
18. Fiddymment Road/W. Sunset Blvd.	Unincorporated Placer County	A.M.	12	B	<u>28</u>	<u>D</u>	9	A
		P.M.	20	C	>150	F	14	B

NOTES:

1. For signalized and all-way stop controlled intersections, average intersection delay is reported in seconds per vehicle for all approaches.
2. Per the HCM, the LOS and average delay for the lane with the highest delay is reported for side-street stop controlled intersections.
3. **BOLD** text indicates the intersection operates at an unacceptable LOS based on the presiding jurisdiction's level of service policy.
4. UNDERLINED text indicates a potentially significant impact based on the significance criteria.

SOURCE: Fehr & Peers, 2015.

Impact Significance After Mitigation: As shown in Table 3.15-22, the implementation of the improvements listed in Mitigation Measures 3.15-4(a) and 3.15-4(b) would improve the traffic operations at the impacted intersections to an acceptable LOS. However, the improvements listed in Mitigation Measures 3.15-4(a) and 3.15-4(b) are not included in any known fee program. Since these improvements are not included in a known fee program, there is no assurance that the remaining funds for construction will be collected. Furthermore, since these improvements are not within the City of Lincoln's jurisdiction to implement, it cannot be guaranteed that these improvements will be constructed. Therefore, this impact would be considered **significant and unavoidable**.

Impact 3.15-5: Implementation of the proposed project would increase traffic levels at intersections under the City of Roseville's jurisdiction.

The proposed project would add traffic to the Fiddymment Road/Baseline Road (#21) intersection, which operates at an unacceptable LOS D during the a.m. peak hour and LOS F during the p.m. peak hour under existing conditions. However, the addition of the proposed project traffic would result in an increase of one second of average vehicle delay during the a.m. peak hour, and would reduce the average vehicle delay by six seconds during the p.m. peak hour as shown in Table 3.15-12. As noted earlier, while this reduction in average vehicle delay is counterintuitive, it is caused by adding traffic to low delay movements and more efficient utilization of the existing signal timings that result in an overall reduction in average vehicle delay. Based on the significance criteria for City of Roseville intersections, this change in average vehicle delay would be below the significance threshold of five seconds or more increase in average vehicle delay for an intersection that is already operating at an unacceptable LOS without the project. Therefore, this impact would be considered **less than significant**.

Mitigation Measure

None required.

Impact 3.15-6: Implementation of the proposed project would increase traffic levels at intersections maintained by Caltrans.

The vehicle traffic added by the proposed project would cause the Nelson Lane/SR 65 (#3) intersection to operate at an unacceptable LOS under existing plus project conditions. This is considered a **potentially significant** impact.

Mitigation Measures**Mitigation Measure 3.15-6**

The project applicants shall pay their fair share cost towards the construction of a new interchange at SR 65/Nelson Lane (#3), as supported by Lincoln General Plan Policy T-2.9. The timing of these payments is outlined in the development agreement. As described in Section 3.15.2, the City of Lincoln is in the process of updating its PFE fee program. This interchange is included in the City's updated PFE fee program. Therefore, the project applicants shall pay their fair share towards these improvements through the City of Lincoln's updated PFE fee program and ensure that they are constructed prior to the service level degrading to an unacceptable LOS D or worse.

Additional funding for the SR 65/Nelson Lane interchange may be provided by a proposed sales tax measure being considered for the November 2016 ballot by the Placer County Transportation Planning Agency (PCTPA). If passed, the PCTPA sales tax measure spending plan includes partial funding for the SR 65/Nelson Lane interchange. The sales tax measure would not fund the total cost of the interchange, but may reduce the project applicants' fair share amount.

The following lane configurations are necessary to provide acceptable operations at the interchange ramp terminal intersections:

- *SR 65 Northbound Ramps/Nelson Lane intersection:*
 - i. *Northbound SR 65 off-ramp: one left-turn lane, one shared left-right turn lane, and one right turn lane*
 - ii. *Northbound Nelson Lane: three through lanes, one free right-turn lane onto the northbound SR 65 loop on-ramp*
 - iii. *Southbound Nelson Lane: three through lanes, one free right-turn lane onto the northbound SR 65 slip on-ramp*

- *SR 65 Southbound Ramps/Nelson Lane intersection:*
 - iv. *Southbound SR 65 off-ramp: one left-turn lane and one right-turn lane*
 - v. *Northbound Nelson Lane: three through lanes, one free right-turn lane onto the southbound SR 65 slip on-ramp*
 - vi. *Southbound Nelson Lane: three through lanes, one free right-turn lane onto the southbound SR 65 loop on-ramp*

Table 3.15-23 presents the resulting intersection operations with this improvement in place.

**TABLE 3.15-23.
CALTRANS INTERSECTION OPERATIONS –
EXISTING PLUS PROJECT CONDITIONS WITH MITIGATION**

Intersection	Jurisdiction	Peak Hour	Existing Conditions		Existing Plus Project		Existing Plus Project with Mitigation	
			Delay ¹	LOS	Delay ¹	LOS	Delay ¹	LOS
3a. Nelson Lane/SR 65 (NB Ramps)	Caltrans	A.M.	22	C	<u>≥150</u>	F	13	B
		P.M.	21	C	<u>≥150</u>	F	18	B
3b. Nelson Lane/SR 65 SB Ramps	Caltrans	A.M.					8	A
		P.M.					7	A

NOTES:

1. Average intersection delay is reported in seconds per vehicle for all approaches.
2. **BOLD** text indicates the intersection operates at an unacceptable LOS based on the presiding jurisdiction's level of service policy.
3. UNDERLINED text indicates a potentially significant impact based on the significance criteria.

SOURCE: Fehr & Peers, 2015.

Impact Significance After Mitigation: With the construction of a new interchange at SR 65/ Nelson Lane as described in Mitigation Measure 3.15-6, the traffic operations at the impacted intersection would be improved to an acceptable LOS. However, not all of the traffic-related improvements would be funded by the City’s PFE. Further, even if the SPRTA fee program is approved by the voters, the program would only partially fund the necessary improvements. Because the project-related traffic improvements are not fully funded, this impact would be **significant and unavoidable**.

Impact 3.15-7: Implementation of the proposed project would increase traffic levels on study roadway segments in Placer County.

The proposed project would add traffic to segments of Fiddymment Road and Athens Avenue in Placer County. The addition of the proposed project traffic would degrade the daily LOS on the study segments of Fiddymment Road from LOS A to LOS C, as shown in Table 3.15-13. However, LOS C operations are considered acceptable per the Placer County General Plan and the significance criteria in this analysis. Therefore, this impact is **less than significant**.

Mitigation Measure

None required.

Impact 3.15-8: Implementation of the proposed project would increase traffic levels on study highway facilities maintained by Caltrans.

The proposed project would add traffic to study highway segments on SR 65. The addition of the proposed project traffic would increase the percent time spent following and reduces the average travel speed on study two-lane highway segments, and increases the density on study multi-lane highway segments, as shown in Table 3.15-14.

All study highway segments continue to operate at an acceptable LOS based on the Concept LOS identified in the SR 65 CSMP. SR 65 north of Riosa Road continues to operate at LOS E, which is considered acceptable per the SR 65 CSMP. SR 65 from Nelson Lane to Riosa Road continues to operate at an acceptable LOS B or better. Therefore, this impact is **less than significant**.

Mitigation Measure

None required.

Impact 3.15-9: Implementation of the proposed project would increase traffic levels on freeway facilities maintained by Caltrans.

The proposed project would add traffic to study freeway segments. The addition of the proposed project traffic would increase the density on study freeway segments, as shown in Table 3.15-15. Notwithstanding, all study freeway segments would continue to operate at an acceptable LOS based on the Concept LOS E identified in the SR 65 CSMP. Therefore, this impact is **less than significant**.

Mitigation Measure

None required.

Impact 3.15-10: Implementation of the proposed project would include the provision of new bicycle and pedestrian facilities in the proposed project to support bicycle and pedestrian travel within the project, and connect the project with adjacent areas in the City of Lincoln.

The V5SP identifies a comprehensive mobility network, including designated facilities for bicyclists and pedestrians. This includes numerous off-street Class I multi-use trails, on-street

Class II bike lanes, a cycle track along Rachel Avenue, and potential grade-separated crossings to reduce conflicts between vehicles and bicyclists/pedestrians. The V5SP also includes sidewalks on the vast majority of project roadways, and will provide crosswalks at signalized intersections and roundabouts to support pedestrian activity. These facilities are adequate to support bicycling and walking, and would not disrupt or interfere with existing or planned bicycle and pedestrian facilities.

The implementation of these facilities would also be consistent with adopted pedestrian and bicycle plans, guidelines, and policies in the City of Lincoln General Plan. The project will include bike lanes wide enough to accommodate bicycles safely on new major streets within the project (see Policy T-5.1). The project will include pedestrian/bicycle crossings at appropriate intervals along new roadways that will serve new large-scale commercial, industrial, and residential development (see Policy T-5.4). Trails, sidewalks, and walking paths in the project will connect residential areas with commercial, shopping, and employment centers (see Policy T-5.6). The project includes trails and pathways along the edges of the ravines passing through the project (see Policy T-5.7). The project's extensive sidewalk network will also enable residents to walk from their homes to places of work, recreation, and shopping (see Policy T-5.8).

The implementation of on-street Class II bike lanes will also include eight-foot shared Class II bicycle/NEV lanes which allow for the dual use of bicycles and NEVs, consistent with the City of Lincoln NEV Plan and General Plan Policy T-4.8. Therefore, this impact is **less than significant**.

Mitigation Measure

None required.

Impact 3.15-11: Implementation of the proposed project would include the provision of transit shelters and a potential bus transfer facility to support transit use as a means of travel within the project and between the project and the surrounding area.

The V5SP would include bus turnouts and shelters to accommodate planned transit service expansion to the area. In addition, a bus transfer lot is being considered as part of a joint use park-and-ride lot to support transit use.

These facilities are adequate to support future transit demand and the expansion of transit service to the project area. Furthermore, they do not interfere with existing or planned transit facilities. Therefore, this impact is **less than significant**.

Mitigation Measure

None required.

Impact 3.15-12: Implementation of the proposed project would include adequate access for emergency vehicles.

All roadways within the proposed project would include at least the minimum required travel way (20 feet) for emergency vehicle access. In addition, Class I multi-use trails may accommodate emergency and maintenance vehicles to provide access to open space areas. All commercial and residential developments will provide an adequate amount of access points to sufficiently provide access for emergency vehicles. Therefore, this impact is **less than significant**.

Mitigation Measure

None required.

Impact 3.15-13: The proposed project could result in temporary impacts to transportation and traffic when construction activity occurs within the Village 5 Specific Plan site.

The proposed project could cause potentially significant traffic impacts during construction. Construction activity will require heavy vehicles to access the site and may include the possibility of temporary traffic lane closures, travel hazards to bicyclists and pedestrians, increased loading and potential damage to roadbeds, or substantial truck traffic on roadways not designated as truck routes. These activities could result in temporary degraded roadway operating conditions, and introduce potentially hazardous travel conditions for vehicles, bicycles, and pedestrians. Therefore, this impact is considered **potentially significant**.

Mitigation Measures

Mitigation Measure 3.15-13

Prior to the beginning of construction for each project phase, project applicants shall prepare a detailed Construction Traffic Management Plan subject to review and approval by the City Department of Public Works, in consultation with Caltrans, affected transit providers, and local emergency service providers. The Traffic Management Plan shall ensure that acceptable operating conditions are maintained on local roadways and freeway facilities. At a minimum, the plan shall include:

- *The number of truck trips, time, and day of street closures*
- *Time of day of arrival and departure of trucks*
- *Provision of a truck circulation pattern*
- *Identification of detour routes and signing plan for street closures, if necessary*
- *Maintain safe and efficient access routes for emergency vehicles*

- *Manual traffic control when necessary*
- *Proper advance warning and posted signage concerning street closures*
- *Provisions for pedestrian and bicycle safety*

A copy of the Construction Traffic Management Plan shall be submitted to local emergency response agencies and transit providers, and these agencies shall be notified at least 30 days before the commencement of construction that would partially or fully obstruct roadways.

Impact Significance After Mitigation: With the implementation of Mitigation Measure 3.15-13, the impact of construction-related traffic activity would be reduced by managing the travel times of heavy vehicles during peak hours, informing motorists of detour routes, minimizing construction traffic effects, reducing travel hazards to bicyclists and pedestrians, and ensuring adequate transit and emergency vehicle access. Therefore, this impact would be reduced to a **less-than-significant** level.

Cumulative Impacts

This section identifies the proposed project's potential cumulatively considerable effects to transportation and traffic conditions when viewed in connection with the effects of other current and probable future projects. This section uses the data presented in the previous Cumulative Conditions section and the significance criteria to evaluate the proposed project's cumulative impacts. The significance of each impact is identified, followed by the recommended mitigation measure(s) to reduce the proposed project's incremental effect, if necessary and/or available. The residual significance (i.e., significance after mitigation) is then identified. Supporting technical calculations are located in Appendix L of this Draft EIR.

Impact 3.15-14: Implementation of the proposed project would contribute to cumulative traffic levels at intersections under the City of Lincoln's jurisdiction operating at an acceptable LOS under cumulative no project conditions.

The incremental addition of vehicle traffic generated by the proposed project would cause five City of Lincoln intersections operating at an acceptable LOS under cumulative no project conditions to operate at an unacceptable LOS under cumulative plus project conditions. This is considered cumulatively considerable, and therefore, would be a **potentially significant cumulative** impact.

The following intersections would operate at an acceptable LOS under cumulative no project conditions and would be significantly impacted by the incremental addition of vehicle traffic generated by the proposed project during each peak hour:

AM Peak Hour

- Lakeside Drive/Nicolaus Road (#32) – LOS C to LOS E

- Teal Hollow Drive/Nicolaus Road (#33) – LOS B to LOS D

PM Peak Hour

- Joiner Parkway/Nicolaus Road (#12) – LOS C to LOS D
- Old Nelson Lane/Moore Road (#14) – LOS C to LOS E
- Joiner Parkway/Ferrari Ranch Road (#26) – LOS C to LOS D
- Lakeside Drive/Nicolaus Road (#32) – LOS C to LOS E
- Teal Hollow Drive/Nicolaus Road (#33) – LOS B to LOS E

Mitigation Measures

Mitigation Measure 3.15-14

Intersections 12, 14, 26, 32 and 33 have been incorporated into the City's update PFE program for transportation. As a result, the project applicants may mitigate by either paying their fair share cost towards the following improvements, or in the alternative to paying fees, the City may require project applicant(s) to construct the improvements identified in below. The development agreement between the City and project applicants shall specify the timing of the fair share payment or construction of these improvements, with the required timing prior to the service level degrading to LOS D, as determined by a traffic study to be funded by the project applicants:

In the alternative to paying fees, the project applicant(s) shall construct the following improvements to restore operations to an acceptable level at each intersection.

- a) *Joiner Parkway/Nicolaus Road (#12):*
 - *Restripe the northbound shared through-left turn lane to be a dedicated left-turn lane*
 - *Restripe the southbound shared through-left turn lane to be a dedicated through lane*
 - *Re-time the signal to provide protected northbound and southbound left-turn phasing.*
- b) *Old Nelson Lane/Moore Road (#14):*
 - *Widen Moore Road to provide an eastbound left-turn pocket and a two-way left-turn lane to allow two-stage gap acceptance for southbound left-turn movements.*
- c) *Joiner Parkway/Ferrari Ranch Road (#26):*
 - *Widen the northbound Joiner Parkway approach to include a third left-turn lane*

- To provide space to receive the third northbound left-turn lane on westbound Ferrari Ranch Road, remove the channelized free right-turn lane from southbound Joiner Parkway
- d) Lakeside Drive/Nicolaus Road (#32):
- Signalize the intersection when signal warrants are met, as stated in Mitigation 3.15-1(f). Signalizing this intersection was identified in the previous City of Lincoln PFE fee program for Transportation and is included in the updated PFE.³⁰
- e) Teal Hollow Drive/Nicolaus Road (#33):
- Signalize the intersection when signal warrants are met.

Table 3.15-24 presents the resulting intersection operations with the improvements listed in Mitigation Measure 3.15-14 in place.

**TABLE 3.15-24.
CITY OF LINCOLN INTERSECTION OPERATIONS –
CUMULATIVE CONDITIONS WITH MITIGATION**

Intersection	Jurisdiction	Peak Hour	Cumulative No Project		Cumulative Plus Project		Cumulative + Project with Mitigation	
			Delay	LOS	Delay	LOS	Delay	LOS
12. Joiner Parkway/Nicolaus Road	City of Lincoln	A.M.	22	C	25	C	22	C
		P.M.	25	C	53	D	23	C
14. Old Nelson Lane/Moore Road	Unincorporated Placer County ³	A.M.	23	C	20	C	15	C
		P.M.	19	C	38	E	19	C
26. Joiner Pkwy./Ferrari Ranch Road	City of Lincoln	A.M.	25	C	29	C	27	C
		P.M.	28	C	47	D	32	C
32. Lakeside Drive/Nicolaus Road	City of Lincoln	A.M.	25	C	48	E	10	B
		P.M.	20	C	47	E	7	A
33. Teal Hollow Drive/Nicolaus Road	City of Lincoln	A.M.	14	B	34	D	8	A
		P.M.	15	B	43	E	22	C

NOTES:

1. For signalized and all-way stop controlled intersections, average intersection delay is reported in seconds per vehicle for all approaches.
2. Per the HCM, the LOS and average delay for the lane with the highest delay is reported for side-street stop controlled intersections.
3. Intersections that are currently in unincorporated Placer County that would be incorporated into the City of Lincoln under existing plus project conditions.

BOLD text indicates the intersection operates at an unacceptable LOS based on the presiding jurisdiction's level of service policy.

UNDERLINED text indicates a potentially significant impact based on the significance criteria.

SOURCE: Fehr & Peers, 2015.

³⁰ Ibid.

Impact Significance After Mitigation: With the implementation of the improvements listed in Mitigation Measure 3.15-14, the traffic operations at the impacted intersections would be improved to acceptable operations prior to the service level degrading to an unacceptable LOS D or worse. Alternatively, the project applicants would be required to pay their fair share towards these improvements through the City of Lincoln's PFE fee program. Therefore, this impact to vehicle traffic operations would be reduced to a **less than significant** level.

The improvement to widen approaches at Joiner Parkway/Ferrari Ranch Road (#26) would increase the crossing distance for bicycles and pedestrians. This would increase the conflict zone of bicyclists and pedestrians with vehicles possibly resulting in a less bicycle and pedestrian-friendly environment.

Additional Mitigation to Reduce Impacts to Intersection #26 If Widened:

Option 1

The City shall monitor traffic conditions at the intersection of Joiner Parkway /Ferrari Ranch Road (#26). In addition to compliance with Mitigation Measures 3.15-14, the City shall cause one of the following measures to be taken prior to the service level degrading to LOS D, as determined by a traffic study at each location to be funded by the project applicant(s):

- f) The project applicant(s) shall coordinate with the City staff to ensure signal phasing times would allow adequate time for cyclists to cross through the widened intersections during green and amber signal phases; or*
- g) The project applicants' intersection designs shall eliminate free right-turn movements in exchange for right-turn overlap phases or dual right turn lanes to serve high right-turn traffic volumes. Any dual right-turn lanes shall be designed to ensure adequate visibility of pedestrians, including any use of a channelized right-turn lane for the inside right-turn lane.*

Option 2

- f) The project applicant(s) may apply to the Community Development Director for a determination as to whether the recommended intersection widening conflicts with the City's Policy T-2.3 and T-5.3 to achieve a traffic design to minimize conflicts between vehicles and pedestrians and bicycles. The Community Development Director may determine that an exception to the LOS C standard in Policy T-2.3 is warranted.*

Impact Significance After Additional Mitigation for Intersection #26

Option 1: With the implementation of one of the additional improvements listed in Mitigation Measures 3.15-14(1-f) or 3.15-14(1-g) above, the traffic operations at intersection #26 would be improved to acceptable operations without impacts to pedestrians and bicycles despite the widening by giving them additional time to get across the widened intersections or by requiring vehicles to stop or yield prior to turning right. Therefore, the impact of intersection widening to pedestrians and bicyclists would be reduced to a **less than significant** level.

Option 2: If the City's Community Development Director determines pedestrian and/or bike safety has not been adequately addressed, s/he may make an exception to the LOS C standard pursuant to General Plan Policy T-2.3. While doing so would not result in increased impacts to other intersections, it would still create increased delay at intersection #26 because the LOS would be increased above C. Therefore, this impact would be considered a **significant and unavoidable impact**.

Impact 3.15-15: Implementation of the proposed project would contribute to cumulative traffic levels at intersections under the City of Lincoln's jurisdiction operating at an unacceptable LOS under cumulative no project conditions.

The proposed project would add vehicle traffic to seven City of Lincoln intersections anticipated to operate at an unacceptable LOS under cumulative no project conditions. At three of these seven intersections, the implementation of the proposed project is anticipated to increase delay by less than five seconds over cumulative no project conditions, which is below the threshold of significance. These are summarized below.

AM Peak Hour

- Nelson Lane/Nicolaus Road (#10) – delay increases from 85 seconds (LOS F) to 89 seconds (LOS F)
- Joiner Parkway/First Street (#27) – delay increases from 43 seconds (LOS D) to 46 seconds (LOS D)

PM Peak Hour

- Nelson Lane/Nicolaus Road (#10) – delay increases from 87 seconds (LOS F) to 91 seconds (LOS F)
- Lincoln Boulevard/Ferrari Ranch Road (#28) – delay increases from 37 seconds (LOS D) to 41 seconds (LOS D)

Since the proposed project's incremental effect increases delay by less than five seconds over cumulative no project conditions, the project's incremental contribution is anticipated to have a **less than cumulatively considerable impact** at these three intersections.

At the remaining four of the seven City of Lincoln intersections anticipated to operate at an unacceptable LOS under cumulative no project conditions, the incremental addition of project traffic is anticipated to increase delay by five seconds or more over cumulative no project conditions. Therefore, the project is considered to make a cumulatively considerable contribution to the **significant cumulative** impact.

The following identifies the four City of Lincoln intersections that would be significantly impacted under cumulative plus project conditions by the incremental addition of vehicle traffic generated by the proposed project during each peak hour:

AM Peak Hour

- Airport Road/Nicolaus Road (#11) – delay increases from 98 seconds (LOS F) to 1039 seconds (LOS F)
- Fiddymment Road/Moore Road (#15) – delay increases from 41 seconds (LOS E) to 78 seconds (LOS F)
- Dowd Road/Moore Road (#22) – delay increases from 14 seconds (LOS B) to 601 seconds (LOS F)
- Caledon Circle/Ferrari Ranch Road (#25) – delay increases from 153 seconds (LOS F) to 179 seconds (LOS F)

PM Peak Hour

- Airport Road/Nicolaus Road (#11) – delay increases from 1381 seconds (LOS F) to 1715 seconds (LOS F)
- Fiddymment Road/Moore Road (#15) – delay increases from 56 seconds (LOS F) to 78 seconds (LOS F)
- Dowd Road/Moore Road (#22) – delay increases from 29 seconds (LOS D) to 363 seconds (LOS F)

Mitigation Measures

Mitigation Measure 3.15-15

- a) *For the cumulative impacts to Airport Road/Nicolaus Road (#11), the project applicant shall implement Mitigation Measure 3.15-1(b) and (g).*
- b) *For the cumulative impacts to Fiddymment Road/Moore Road (#15), the project applicant shall implement Mitigation Measure 3.15-1(d).*
- c) *For the cumulative impacts to Dowd Road/Moore Road (#22), the project applicant shall implement Mitigation Measure 3.15-1(e).*

d) For the cumulative impacts to Caledon Circle/Ferrari Ranch Road (#25), the project applicant shall pay their fair share cost towards the following improvements. These improvements are included in the City's updated PFE fee program:

- Provide an overlap phase on the northbound right-turn movement.

Table 3.15-25 presents the resulting intersection operations with the improvements to mitigate the project's incremental effect in place.

**TABLE 3.15-25.
CITY OF LINCOLN INTERSECTION OPERATIONS –
CUMULATIVE CONDITIONS WITH MITIGATION**

Intersection	Jurisdiction	Peak Hour	Cumulative No Project		Cumulative Plus Project		Cumulative + Project with Mitigation	
			Delay	LOS	Delay	LOS	Delay	LOS
11. Airport Road/Nicolaus Road	City of Lincoln	A.M.	98	F	<u>>150</u>	<u>F</u>	72	E
		P.M.	>150	F	<u>>150</u>	<u>F</u>	73	E
15. Fiddyment Road/Moore Road	Unincorporated Placer County ³	A.M.	41	E	<u>78</u>	<u>F</u>	21	C
		P.M.	56	F	<u>78</u>	<u>F</u>	31	C
22. Dowd Road/Moore Road	Unincorporated Placer County ³	A.M.	14	B	<u>>150</u>	<u>F</u>	9	A
		P.M.	29	D	<u>>150</u>	<u>F</u>	13	B
25. Caledon Circle/Ferrari Ranch Road	City of Lincoln	A.M.	>150	F	<u>>150</u>	<u>F</u>	135	F
		P.M.	36	D	<u>38</u>	<u>D</u>	35	C

NOTES:

1. For signalized and all-way stop controlled intersections, average intersection delay is reported in seconds per vehicle for all approaches.
2. Per the HCM, the LOS and average delay for the lane with the highest delay is reported for side-street stop controlled intersections.
3. Intersections that are currently in unincorporated Placer County that would be incorporated into the City of Lincoln under existing plus project conditions.

BOLD text indicates the intersection operates at an unacceptable LOS based on the presiding jurisdiction's level of service policy.

UNDERLINED text indicates a potentially significant impact based on the significance criteria.

SOURCE: Fehr & Peers, 2015.

Impact Significance After Mitigation: While intersections 11(a.m. and p.m. peak hours) and 25 (a.m. peak hour) would operate at unacceptable levels of service, this would not be due to the Proposed Project. With the implementation of Mitigation Measures 3.15-15(a) through 3.15-15(d) listed above, the traffic operations at the impacted intersections would be improved to address the project's incremental contribution. Alternatively, the project applicant could pay its fair share towards improvements through the City of Lincoln's PFE fee program and ensure that they are constructed prior to the project exacerbating future unacceptable operations. Therefore, this impact to vehicle traffic operations would be reduced to a **less than significant** level.

Impact 3.15-16: Implementation of the proposed project would contribute to cumulative traffic levels at future City of Lincoln intersections in Village 5.

With implementation of the proposed project, traffic from current and probable future projects (i.e., Villages 1 and 7) would use the roadway network within Village 5. When viewed in combination with the proposed project, the Dowd Road/Mavis Road and Nelson Lane/Mavis Road intersections within Village 5 are anticipated to operate at an unacceptable LOS.

The future intersection of Dowd Road/Mavis Road (#37) is anticipated to operate at LOS F during both the a.m. and p.m. peak hours with the following lane configurations:

- *Northbound*: one left-turn lane, one through lane, and one shared through-right turn lane
- *Southbound*: one left-turn lane, one through lane, and one shared through-right turn lane
- *Eastbound*: one left-turn lane and one shared through-right turn lane
- *Westbound*: one left-turn lane, one through lane, and one trap right-turn lane

The future intersection of Nelson Lane/Mavis Road (#30) is anticipated to operate at LOS D during the a.m. peak hour and LOS F during the p.m. peak hour with the following lane configurations:

- *Northbound*: two left-turn lanes, three through lanes, one right-turn lane
- *Southbound*: two left-turn lanes, three through lanes, one right-turn lane
- *Eastbound*: two left-turn lanes, two through lanes, one right-turn lane
- *Westbound*: two left-turn lanes, two through lanes, one right-turn lane

Therefore, the project is considered to make a cumulatively considerable contribution to a **potentially significant cumulative** impact.

Mitigation Measures

Mitigation Measure 3.15-16

The City shall monitor traffic conditions at the future Dowd Road/Mavis Road (#37) and Nelson Lane/Mavis Road (#40) intersections, and shall cause the following improvements to be constructed prior to the service level degrading to LOS D, subject to reimbursement to the constructing entity by those benefitting from the improvements:

- a) *Dowd Road/Mavis Road (#37):*
 - *To reduce the average vehicle delay, the following improvements are necessary to provide LOS C operations at Dowd Road/Mavis Road:*
 - i. *Provide two southbound left-turn lanes*

- ii. Channelize the westbound right-turn lane and provide a receiving merge lane on northbound Dowd Road to allow free right-turn movements
- b) Nelson Lane/Mavis Road (#40):
 - Implement Mitigation Measure 3.15-3.

Table 3.15-26 presents the resulting intersection operations with these improvements in place.

**TABLE 3.15-26.
VILLAGE 5 INTERSECTION OPERATIONS –
CUMULATIVE CONDITIONS WITH MITIGATION**

Intersection	Jurisdiction	Peak Hour	Cumulative No Project		Cumulative Plus Project		Cumulative + Project with Mitigation	
			Delay	LOS	Delay ¹	LOS	Delay	LOS
37. Dowd Road/Mavis Road	Unincorporated Placer County ²	A.M.			<u>82</u>	F	20	B
		P.M.			<u>147</u>	F	27	C
40. Nelson Lane/Mavis Road	Unincorporated Placer County ²	A.M.			<u>55</u>	D	31	C
		P.M.			<u>91</u>	F	36	D

NOTES:

1. For signalized and all-way stop controlled intersections, average intersection delay is reported in seconds per vehicle for all approaches.
2. These are proposed project intersections that do not exist under cumulative no project conditions. They are assumed to be incorporated into the City of Lincoln under cumulative plus project conditions.

BOLD text indicates the intersection operates at an unacceptable LOS based on the presiding jurisdiction's level of service policy.

UNDERLINED text indicates a potentially significant impact based on the significance criteria.

SOURCE: Fehr & Peers, 2015.

Impact Significance After Mitigation: With the implementation of Mitigation Measure 3.15-16(a) and 3.15-16(b), the traffic operations at the impacted intersections would be improved. More specifically, these improvements would result in traffic operations at the LOS C/LOS D threshold during the a.m. peak hour (35.8 seconds of delay) and LOS C operations during the p.m. peak hour (31.0 seconds of delay). To fully achieve LOS C operations during the a.m. peak hour, a third southbound left-turn lane would be required (reducing delay to 31.3 seconds during the a.m. peak hour and 30.5 seconds during the p.m. peak hour), as shown in Table 3.15-26. However, the Nelson Lane/Mavis Road intersection would continue to operate at an unacceptable LOS D. Therefore, the impact would remain **significant and unavoidable**.

Impact 3.15-17: Implementation of the proposed project would contribute to cumulative traffic levels at intersections under the County of Placer's jurisdiction.

The proposed project would add vehicle traffic to four County of Placer intersections anticipated to operate at an unacceptable LOS under cumulative no project conditions. At the intersections of Fiddymment Road/W. Sunset Boulevard (#18) and Industrial Avenue/Athens Avenue (#35), the implementation of the proposed project would not increase delay by more than five seconds.

Since the proposed project's incremental effect would increase delay by less than five seconds over cumulative no project conditions, the project is anticipated to have a **less than cumulatively considerable** impact at these intersections.

At the intersections of Fiddymment Road/Athens Avenue (#16) and Fiddymment Road/E. Catlett Road (#17), the incremental addition of project traffic is anticipated to increase delay by five seconds or more over cumulative no project conditions. Therefore, the project is considered to make a cumulatively considerable contribution to a **potentially significant cumulative** impact.

The following list provides additional information regarding the intersections that would be significantly impacted under cumulative plus project conditions by the incremental addition of vehicle traffic generated by the proposed project during each peak hour:

AM Peak Hour

- Fiddymment Road/Athens Avenue (#16) – delay increases from 54 seconds (LOS D) to 110 seconds (LOS F)
- Fiddymment Road/E. Catlett Road (#17) – delay increases from 108 seconds (LOS F) to 538 seconds (LOS F)

PM Peak Hour

- Fiddymment Road/Athens Avenue (#16) – delay increases from 45 seconds (LOS D) to 125 seconds (LOS F)
- Fiddymment Road/E. Catlett Road (#17) – delay increases from 20 seconds (LOS C) to 844 seconds (LOS F)

Mitigation Measures

Mitigation Measure 3.15-17

- a) *For the intersection at Fiddymment Road/Athens Avenue (#16), the project applicants shall implement Mitigation Measure 3.15-4.*
- b) *For the intersection at Fiddymment Road/E. Catlett Road (#17), the project applicant shall pay their fair share costs towards the following improvements:*
 - *Widening the northbound and southbound approaches to include two through lanes; this is consistent with Mitigation Measure 3.15-21(a).*
 - *Adding a northbound left-turn pocket.*
 - *Signalizing the intersection with protected northbound left-turn phasing*
 - *Widening the eastbound approach to include a left-turn pocket and right-turn lane. Provide an overlap phase for the eastbound right-turn movement.*

Table 3.15-27 presents the resulting intersection operations with the improvement to mitigate the project’s incremental effect in place.

**TABLE 3.15-27.
COUNTY OF PLACER INTERSECTION OPERATIONS –
CUMULATIVE CONDITIONS WITH MITIGATION**

Intersection	Jurisdiction	Peak Hour	Cumulative No Project		Cumulative Plus Project		Cumulative + Project with Mitigation	
			Delay	LOS	Delay	LOS	Delay	LOS
16. Fiddymment Road/Athens Avenue	Unincorporated Placer County	A.M.	54	D	<u>110</u>	<u>F</u>	34	C
		P.M.	45	D	<u>125</u>	<u>F</u>	39	D
17. Fiddymment Road/E. Catlett Road	Unincorporated Placer County	A.M.	108	F	<u>≥150</u>	<u>F</u>	22	C
		P.M.	20	C	<u>≥150</u>	<u>F</u>	27	C

NOTES:

1. For signalized intersections, average intersection delay is reported in seconds per vehicle for all approaches.
2. Per the HCM, the LOS and average delay for the lane with the highest delay is reported for side-street stop controlled intersections.
3. **BOLD** text indicates the intersection operates at an unacceptable LOS based on the presiding jurisdiction’s level of service policy.
4. UNDERLINED text indicates a potentially significant impact based on the significance criteria.

SOURCE: Fehr & Peers, 2015.

Impact Significance After Mitigation: With the implementation of Mitigation Measures 3.15-17(a) and 3.15-17(b), the traffic operations at the impacted intersections could be improved to address the project’s incremental contribution. However, the improvements listed in Mitigation Measures 3.15-17(a) and 3.15-17(b) are not included in any known fee program. Since these improvements are not included in a known fee program, there is no assurance that the remaining funds for construction will be collected. Additionally, this mitigation requires approvals from agencies other than the City. Since these improvements are not within the City of Lincoln’s jurisdiction to implement, it cannot be guaranteed that these improvements will be constructed. Therefore, this impact would be considered **significant and unavoidable**.

Impact 3.15-18: Implementation of the proposed project would contribute to cumulative traffic levels at intersections under the City of Roseville’s jurisdiction.

The proposed project would add vehicle traffic to three City of Roseville intersections anticipated to operate at an unacceptable LOS under cumulative no project conditions. At the intersection of Fiddymment Road/Pleasant Grove Boulevard (#20), the implementation of the proposed project is anticipated to increase delay from 176 seconds under cumulative no project conditions to 180 seconds under cumulative plus project conditions during the a.m. peak hour, and have no effect on delay during the p.m. peak hour (remains constant at 241 seconds of delay for both cumulative scenarios). Since the proposed project’s incremental effect would increase delay by less than five seconds over cumulative no project conditions, the project is anticipated to have a **less than cumulatively considerable** impact at this intersection.

At the intersections of Fiddymment Road/Blue Oaks Boulevard (#19) and Fiddymment Road/Baseline Road (#21), the incremental addition of project traffic is anticipated to increase delay by five seconds or more over cumulative no project conditions during either the a.m. or p.m. peak hour. Therefore, the project would result in a cumulatively considerable contribution to a **potentially significant cumulative** impact.

The following list provides additional information regarding the intersections that would be significantly impacted under cumulative plus project conditions by the incremental addition of vehicle traffic generated by the proposed project during each peak hour:

AM Peak Hour

- Fiddymment Road/Baseline Road (#21) – delay increases from 271 seconds (LOS F) to 277 seconds (LOS F)

PM Peak Hour

- Fiddymment Road/Blue Oaks Boulevard (#19) – delay increases from 76 seconds (LOS E) to 85 seconds (LOS F)

Mitigation Measures

Mitigation Measure 3.15-18

The project applicants shall pay their fair share cost towards the following recommended improvements to mitigate the proposed project's incremental contribution to unacceptable traffic operations at each of the following intersections:

- a) *Fiddymment Road/Blue Oaks Boulevard (#19):*
 - *An overlap phase on the southbound right-turn movement. This improvement would mitigate the project's incremental contribution to delay at this intersection.*
- b) *Fiddymment Road/Baseline Road (#21):*
 - *An overlap phase on the southbound right-turn movement. This improvement would mitigate the project's incremental contribution to delay at this intersection.*

Table 3.15-28 presents the resulting intersection operations with the improvement to mitigate the project's incremental effect in place.

**TABLE 3.15-28.
CITY OF ROSEVILLE INTERSECTION OPERATIONS –
CUMULATIVE CONDITIONS WITH MITIGATION**

Intersection	Jurisdiction	Peak Hour	Cumulative No Project		Cumulative Plus Project		Cumulative + Project with Mitigation	
			Delay	LOS	Delay	LOS	Delay	LOS
19. Fiddymment Road/Blue Oaks Blvd.	City of Roseville	A.M.	63	E	63	E	46	D
		P.M.	76	E	<u>85</u>	F	78	E
21. Fiddymment Road/Baseline Road	City of Roseville	A.M.	>150	F	<u>≥150</u>	F	>150	F
		P.M.	>150	F	>150	F	>150	F

NOTES:

1. For signalized intersections, average intersection delay is reported in seconds per vehicle for all approaches.
2. Per the HCM, the LOS and average delay for the lane with the highest delay is reported for side-street stop controlled intersections.
3. **BOLD** text indicates the intersection operates at an unacceptable LOS based on the presiding jurisdiction's level of service policy.
4. UNDERLINED text indicates a potentially significant impact based on the significance criteria.

SOURCE: Fehr & Peers, 2015.

Impact Significance After Mitigation: With the implementation of Mitigation Measures 3.15-18(a) and 3.15-18(b), the traffic operations at the impacted intersections would be funded to improve and address the project's incremental contribution. However, the improvements listed in Mitigation Measures 3.15-18(a) and 3.15-18(b) are not included in any known fee program. Since these improvements are not included in a known fee program, there is no assurance that the remaining funds for construction will be collected. Furthermore, since these improvements are not within the City of Lincoln's jurisdiction to implement, it cannot be guaranteed that these improvements would be constructed. Therefore, this impact would be considered **significant and unavoidable**.

Impact 3.15-19: Implementation of the proposed project would contribute to cumulative traffic levels at intersections maintained by Caltrans.

The incremental addition of vehicle traffic generated by the proposed project is anticipated to cause the Nelson Lane/SR 65 (#3) intersection to operate at an unacceptable LOS under cumulative plus project conditions. In addition, the proposed project would add vehicle traffic to the SR 65 Southbound Ramps/Ferrari Ranch Road (#4) and SR 65 Northbound Ramps/Twelve Bridges Drive (#9) intersections, which are anticipated to operate at an unacceptable LOS under cumulative no project conditions. The incremental addition of project traffic is anticipated to increase delay by five seconds or more over cumulative no project conditions at these two intersections. Therefore, the project would result in a cumulatively considerable contribution to a **potentially significant cumulative** impact. The following list provides additional information regarding the intersections that are significantly impacted under cumulative plus project conditions by the incremental addition of vehicle traffic generated by the proposed project during each peak hour:

AM Peak Hour

- SR 65/Nelson Lane (#3) – delay increases from 55 seconds (LOS D) to 286 seconds (LOS F)
- SR 65 Southbound Ramps/Ferrari Ranch Road (#4) – delay increases from 61 seconds (LOS E) to 110 seconds (LOS F)
- SR 65 Northbound Ramps/Twelve Bridges Drive (#9) – delay increases from 55 seconds (LOS E) to 61 seconds (LOS E)

PM Peak Hour

- SR 65/Nelson Lane (#3) – delay increases from 46 seconds (LOS D) to 450 seconds (LOS F)

Mitigation Measures**Mitigation Measure 3.15-19**

- a) *For SR 65/Nelson Lane (#3a and #3b), implement Mitigation Measure 3.15-6.*
- b) *For SR 65 Southbound Ramps/Ferrari Ranch Road (#4):*

The project applicants shall pay their fair share cost towards the following recommended improvements to mitigate the proposed project's incremental contribution to unacceptable traffic operations at SR 65 Southbound Ramps/Ferrari Ranch Road. These improvements are included in the City's updated PFE fee program. Therefore, the project applicant shall pay their fair share through the City of Lincoln's updated PFE fee program:

- *Widening the eastbound approach to include a dedicated right-turn lane; channelize the eastbound right-turn movement onto the southbound on-ramp to allow free right-turn movements.*

- c) *SR 65 Southbound Ramps/Twelve Bridges Drive (#9):*

The project applicants shall pay their fair share cost towards the following recommended improvements to mitigate the proposed project's incremental contribution to unacceptable traffic operations at SR 65 Southbound Ramps/Twelve Bridges Drive. These improvements are included in the City's updated PFE fee program. Therefore, the project applicant shall pay their fair share through the City of Lincoln's updated PFE fee program:

- *Restriping the northbound off-ramp converting the existing shared through-right turn lane to a shared through-left turn lane*

Table 3.15-29 presents the resulting intersection operations with these improvements in place.

**TABLE 3.15-29.
CALTRANS INTERSECTION OPERATIONS –
CUMULATIVE CONDITIONS WITH MITIGATION**

Intersection	Jurisdiction	Peak Hour	Cumulative No Project		Cumulative Plus Project		Cumulative + Project with Mitigation	
			Delay	LOS	Delay	LOS	Delay	LOS
3a. Nelson Lane/SR 65 (NB Ramps)	Caltrans	A.M.	55	D	<u>≥150</u>	<u>F</u>	21	C
		P.M.	46	D	<u>≥150</u>	<u>F</u>	30	C
3b. Nelson Lane/SR 65 SB Ramps	Caltrans	A.M.					5	A
		P.M.					7	A
4. SR 65 SB Ramps/Ferrari Ranch Rd.	Caltrans	A.M.	61	E	110	F	11	B
		P.M.	11	B	36	D	34	C
9. SR 65 NB Ramps/Twelve Bridges Dr.	Caltrans	A.M.	55	E	61	F	26	C
		P.M.	46	D	52	D	40	D

NOTES:

1. For signalized intersections, average intersection delay is reported in seconds per vehicle for all approaches.
2. Per the HCM, the LOS and average delay for the lane with the highest delay is reported for side-street stop controlled intersections.
3. **BOLD** text indicates the intersection operates at an unacceptable LOS based on the presiding jurisdiction's level of service policy.
4. UNDERLINED text indicates a potentially significant impact based on the significance criteria.

SOURCE: Fehr & Peers, 2015.

Impact Significance After Mitigation: With the implementation of Mitigation Measures 3.15-19(a) through 3.15-19(c), the traffic operations at the impacted intersections would be improved to an acceptable LOS. However, not all of the traffic-related improvements would be funded by the City's PFE. Further, even if the SPRTA fee program is approved by the voters, the program would only partially fund the necessary improvements. Because the project-related traffic improvements are not fully funded, this impact would be **significant and unavoidable**.

Impact 3.15-20: Implementation of the proposed project would contribute to cumulative traffic levels on study roadway segments in Placer County.

The proposed project would add vehicle traffic to two study roadway segments in Placer County that are anticipated to operate at an unacceptable LOS under cumulative no project conditions: Fiddymment Road between Moore Road and Athens Avenue and Athens Avenue between Fiddymment Road and Foothills Boulevard. At both of these locations, the implementation of the proposed project is anticipated to increase the volume-to-capacity ratio by more than 0.01. Therefore, the project is anticipated to result in a cumulatively considerable contribution to a **potentially significant cumulative** impact.

Mitigation Measures

Mitigation Measure 3.15-20

The project applicants shall pay their fair share cost to the City for the following recommended improvements to restore vehicle traffic operations to mitigate the proposed project's incremental contribution to unacceptable traffic operations at each roadway segment.

- a) *Widening Fiddymment Road from Athens Avenue to Moore Road from a two-lane undivided arterial to a four-lane divided arterial.*
- b) *Widening Athens Road from Fiddymment Road to Foothills Boulevard from a two-lane undivided arterial to a four-lane divided arterial.*

Table 3.15-30 presents the resulting roadway segment operations with these improvements in place.

**TABLE 3.15-30.
DAILY ROADWAY SEGMENT OPERATIONS –
CUMULATIVE CONDITIONS WITH MITIGATION**

Roadway Segment	Cumulative No Project ¹			Cumulative Plus Project ¹			Cumulative Plus Project with Mitigation ²		
	Daily Traffic	V/C ³	LOS ⁴	Daily Traffic	V/C ³	LOS ⁴	Daily Traffic	V/C ³	LOS ⁴
Fiddymment Road									
Moore Road to Athens Avenue	21,100	1.06	F	28,800	1.44	E	28,800	0.72	C
Athens Avenue									
Fiddymment Road to Foothills Boulevard	22,400	1.12	F	23,000	1.15	E	23,000	0.58	A

NOTES:

1. Both study segments are analyzed as two-lane, high-access controlled arterials, per the definition outlined in Table 4-16 of the Placer County Countywide General Plan Final EIR, under cumulative no project and cumulative plus project conditions.
2. Both study segments are analyzed as four-lane, high-access controlled arterials, per the definition outlined in Table 4-16 of the Placer County Countywide General Plan Final EIR, with mitigation.
3. V/C = Volume-to-capacity ratio.
4. Level of service based on thresholds presented in Table 3.15-3 from the Placer County Countywide General Plan Final EIR.

SOURCE: Fehr & Peers, 2015

Impact Significance After Mitigation: With the implementation of Mitigation Measures 3.15-20(a) and 3.15-20(b), the traffic operations at the impacted roadways would be improved to an acceptable LOS. However, the improvements listed in Mitigation Measures 3.15-20(a) and 3.15-20(b) are not included in any known fee program. This mitigation also requires approvals from other agencies. Since these improvements are not included in a known fee program, there is no assurance that the remaining funds for construction will be collected. Furthermore, since these improvements are not within the City of Lincoln's jurisdiction to implement, it cannot be guaranteed that these improvements would be constructed. Therefore, this impact would be considered **significant and unavoidable**.

Impact 3.15-21: Implementation of the proposed project would contribute to cumulative traffic levels on study highway facilities maintained by Caltrans.

The proposed project would add vehicle traffic to study highway segments on SR 65. The proposed project's incremental addition in traffic in conjunction with traffic generated by other known projects would increase the percent time spent following and reduce the average travel speed on study two-lane highway segments, and increase the density on study multi-lane highway segments under cumulative plus project conditions, as shown in Table 3.15-18.

All study highway segments would continue to operate at an acceptable LOS based on the Concept LOS identified in the SR 65 CSMP. SR 65 north of Riosa Road continues to operate at LOS E, which is considered acceptable per the SR 65 CSMP. SR 65 from Nelson Lane to Riosa Road continues to operate at an acceptable LOS B or better. Therefore, this impact would be **less than cumulatively considerable**.

Mitigation Measure

None required.

Impact 3.15-22: Implementation of the proposed project would contribute to cumulative traffic levels on study freeway facilities maintained by Caltrans.

The incremental addition of vehicle traffic generated by the proposed project would add traffic to the study freeway segments and would contribute to unacceptable traffic operations under cumulative plus project conditions. **Table 3.15-31** identifies the amount of peak hour trips that the proposed project would add to freeway segments operating at LOS F conditions under cumulative plus project conditions. As shown in Table 3.15-31, the proposed project is expected to add more than 60 peak hour trips to these freeway segments operating at LOS F conditions. Therefore, the project is considered to result in a cumulatively considerable contribution to a **potentially significant cumulative** impact.

**TABLE 3.15-31.
FREEWAY OPERATIONS – CUMULATIVE CONDITIONS**

Location	Segment Type	Peak Hour	Cumulative No Project		Cumulative Plus Project		Project Trips
			Density	LOS	Density	LOS	
Northbound SR 65							
Placer Parkway Loop On-Ramp	Merge	A.M.	32	D	39	E	700
		P.M.	38	E	-	F	740
Whitney Ranch Pkwy. Slip On-Ramp	Merge	A.M.	30	D	-	F	700
		P.M.	-	F	-	F	740
Placer Pkwy. to Twelve Bridges Dr.	Basic	A.M.	36	E	-	F	700
		P.M.	-	F	-	F	740
Twelve Bridges Drive Off-Ramp	Diverge	A.M.	38	E	-	F	700
		P.M.	-	F	-	F	740
Twelve Bridges Drive to Lincoln Blvd.	Weave	A.M.	-	D	-	E	870
		P.M.	-	F	-	F	860
Southbound SR 65							
Lincoln Blvd. to Twelve Bridges Drive	Weave	A.M.	-	E	-	F	1,000
		P.M.	-	E	-	F	1,020
Twelve Bridges Drive On-Ramp	Merge	A.M.	-	F	-	F	850
		P.M.	-	F	-	F	830
Twelve Bridges Dr. to Placer Pkwy.	Basic	A.M.	44	E	-	F	850
		P.M.	43	E	-	F	830
Placer Parkway Off-Ramp	Diverge	A.M.	-	F	-	F	850
		P.M.	-	F	-	F	830
Whitney Ranch Pkwy. Loop On-Ramp	Merge	A.M.	35	D	-	F	850
		P.M.	35	E	-	F	740

NOTES:

- Density is reported in passenger car equivalents per mile per lane (pcpmp). Density is unable to be calculated for LOS F conditions.
- Per Caltrans' *Guide for the Preparation of Traffic Impact Studies*, weave sections are analyzed using the Leisch Method as described in Chapter 500 of the *Highway Design Manual*. Weave LOS results are based on service volume (density not calculated).
- Based on the Leisch Method analysis, these weave segments are analyzed as basic segments because the weave calculation indicates that the segment falls outside the realm of weaving.
- BOLD** text indicates the freeway segment operates at an unacceptable LOS based on the Concept LOS presented in the SR 65 CSMP.
- UNDERLINED text indicates a potentially significant impact based on the significance criteria.

SOURCE: Fehr & Peers, 2015

Mitigation Measure

Mitigation Measure 3.15-22

The project applicants shall pay their fair share of the above freeway impacts. The fair share payment shall consist of the appropriate SPRTA Fees to help fund improvements to SR 65. A number of different improvements may be considered by Caltrans and the City of Lincoln to restore operations to acceptable levels at the impacted locations. Improvements to SR 65 could take the form of auxiliary lanes between interchanges, an additional general purpose or High Occupancy Vehicle (HOV) lane in each direction of SR 65, ramp

metering, additional deceleration/acceleration areas at affected ramps, increased parallel street capacity, Intelligent Transportation System (ITS) solutions, and other options. This mitigation measure would require the project applicant(s) to pay their fair share of future improvements to SR 65. SRPTA funding for the SR 65 widening project is currently estimated to be \$67 million of the estimated total cost of \$95 million for the project.

For purposes of this analysis, **Table 3.15-32** below shows the anticipated operations if SR 65 were widened to six lanes from Placer Parkway to Lincoln Boulevard.

**TABLE 3.15-32.
FREEWAY OPERATIONS – CUMULATIVE CONDITIONS WITH MITIGATION**

Location	Peak Hour	Cumulative No Project		Cumulative + Project		Cumulative + Project with Mitigation	
		Density	LOS	Density	LOS	Density	LOS
Northbound SR 65							
Placer Parkway Loop On-Ramp	A.M.	32	D	39	E	24	C
	P.M.	38	E	-	<u>F</u>	28	D
Whitney Ranch Pkwy. Slip On-Ramp	A.M.	30	D	-	<u>F</u>	24	C
	P.M.	-	F	-	<u>F</u>	29	D
Placer Pkwy. to Twelve Bridges Dr.	A.M.	36	E	-	<u>F</u>	26	C
	P.M.	-	F	-	<u>F</u>	30	D
Twelve Bridges Drive Off-Ramp	A.M.	38	E	-	<u>F</u>	32	D
	P.M.	-	F	-	<u>F</u>	34	D
Twelve Bridges Drive to Lincoln Blvd.	A.M.	-	D	-	E	-	C
	P.M.	-	F	-	<u>F</u>	-	E
Southbound SR 65							
Lincoln Blvd. to Twelve Bridges Drive	A.M.	-	E	-	<u>F</u>	-	E
	P.M.	-	E	-	<u>F</u>	-	E
Twelve Bridges Drive On-Ramp	A.M.	-	F	-	<u>F</u>	31	D
	P.M.	-	F	-	<u>F</u>	30	D
Twelve Bridges Dr. to Placer Pkwy.	A.M.	44	E	-	<u>F</u>	30	D
	P.M.	43	E	-	<u>F</u>	29	D
Placer Parkway Off-Ramp	A.M.	-	F	-	<u>F</u>	18	B
	P.M.	-	F	-	<u>F</u>	19	B
Whitney Ranch Pkwy. Loop On-Ramp	A.M.	35	D	-	<u>F</u>	28	C
	P.M.	35	E	-	<u>F</u>	28	D

NOTES:

- Density is reported in passenger car equivalents per mile per lane (pcpmpl). Density is unable to be calculated for LOS F conditions.
- Per Caltrans' *Guide for the Preparation of Traffic Impact Studies*, weave sections are analyzed using the Leisch Method as described in Chapter 500 of the *Highway Design Manual*. Weave LOS results are based on service volume (density not calculated).
- Based on the Leisch Method analysis, these weave segments are analyzed as basic segments because the weave calculation indicates that the segment falls outside the realm of weaving.
- BOLD** text indicates the freeway segment operates at an unacceptable LOS based on the Concept LOS presented in the SR 65 CSMP.
- UNDERLINED text indicates a potentially significant impact based on the significance criteria.

SOURCE: Fehr & Peers, 2015

Impact Significance After Mitigation: Currently, there is no regional funding program in place to fund the referenced improvements. Despite the project's fair share contribution, uncertainty that funding will be available for the necessary improvements, as well as the lack of City jurisdiction over the improvements, requires the project's impacts to the above affected locations to be considered **significant and unavoidable**.

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3.16 Utilities and Infrastructure

This section addresses potential effects of the proposed project on public utilities services and infrastructure (including water supply, wastewater, reclaimed water, stormwater, and solid waste). The environmental setting describes the systems and facilities involving water supply, wastewater, stormwater drainage, and solid waste infrastructure within the Plan Area and the City of Lincoln. The regulatory setting discusses the applicable federal, state, and local laws, regulations, and policies that affect the proposed project. Section 3.10, Hydrology, Drainage, and Water Quality, describes possible impacts to surface water hydrology and hydrological impacts pertaining to stormwater drainage, flooding, and groundwater within the Plan Area, whereas this section considers utility services and infrastructure associated with providing those services.

Several comment letters in response to the Notice of Preparation (NOP) addressed water quality and water demand at the project site. A few individual comments stated a concern for water supplies during drought conditions and future water supply in particular, but also requested more detail for wet and dry year conditions. Another individual comment expressed concern regarding continued sufficiency of water supply for the Sun City Lincoln Hills site as a result of increased water supply demand for the proposed V5SP. Placer County Water Agency (PCWA) requested that the project site be transferred from PCWA Zone No. 5 to Zone No. 1 and stated that PCWA anticipates that the project would ultimately be served from either the PCWA-proposed Sacramento River Diversion project or the PCWA-proposed Ophir Water Treatment Plant (WTP). PCWA also requested that the EIR examine existing and future water supplies and the infrastructure to convey water to the City of Lincoln. Water supply is addressed in this section and in Appendix H, which contains the Water Supply Assessment (WSA).

PCWA and the Central Valley Flood Protection Board (CVFPB) both stated that specific permitting for water and wastewater treatment would be compulsory, as discussed below in greater detail. Placer County Department of Facility Services also asked whether the proposed Midwestern Placer Regional Sewer Project would be able to accommodate the proposed project. Western Placer Waste Management Authority and Placer County Department of Facility Services inquired about the potential solid waste numbers, as well as solid waste-related impacts from the proposed project. All of these issues are addressed in this section of the EIR.

The analysis included in this section was developed based on project-specific construction and operational plans and other related project information in the proposed V5SP; the 2050 City of Lincoln General Plan; the 2015 City of Lincoln Urban Water Management Plan; the 2015 PCWA Urban Water Management Plan; the 2015 Nevada Irrigation District (NID) Urban Water Management Plan; the Village 5/SUD-B Development Project SB 610 WSA by Tully & Young (found in Appendix H); and the Water, Reclaimed Water, Sanitary Sewer, and Stormwater Master Plans for the proposed Lincoln V5SP (found as appendices within the Draft Lincoln Village 5 Specific Plan).

3.16.1 Water Supply

This subsection describes water supplies and historic water demands within the City's service area, and the projected water demand for the proposed project and City service area through 2040. This subsection also describes existing water treatment and conveyance infrastructure and its capacity to serve the proposed project. In addition to source documents cited, information presented is based primarily on the following documents:

- *Village 5/SUD-B Development Project SB 610 Water Supply Assessment*, prepared by Tully & Young for the City of Lincoln, Final Draft, August 2016 (included as Appendix H of this Draft EIR)¹
- *Water Master Plan for Village 5 Specific Plan*, prepared by Cunningham Engineering for the City of Lincoln, Draft, February 5, 2016²
- *Reclaimed Water Master Plan for Village 5 Specific Plan*, prepared by Cunningham Engineering for the City of Lincoln, November 17, 2015³

Environmental Setting

Water Supply Sources

The City of Lincoln provides municipal water service to commercial and residential customers in its jurisdiction, which includes the City limits and the City's sphere of influence. Historically, the City has primarily been supplied by water treated and delivered by PCWA. These supplies consist of PCWA surface water rights and entitlements as well as NID water rights and entitlements. The City also supplements surface water deliveries with groundwater during periods when treated surface water through PCWA's system is reduced, as well as to manage summer maximum day and peak hour water demands.

Specifically, the City receives water supplies from six primary sources to meet water demand in the City service area which includes the Plan Area. These water supply sources are: (1) PCWA treated water contract; (2) NID temporary raw water sales agreement; (3) groundwater; (4) reclaimed water; (5) PCWA raw water; and (6) NID raw water. Each of these water supply entitlement and supply sources is further described below. The discussions also include a description of facilities that treat and deliver the water to the City. **Table 3.16-1** shows the City's water supply sources between 2008 and 2015.

¹ Tully & Young, 2016. Village 5/SUD-B SB 610 Water Supply Assessment: City of Lincoln, CA. August 2016.

² Cunningham Engineering, 2016. Water Master Plan for Village 5 Specific Plan: City of Lincoln, CA. February 5, 2016. Appendix C of the Draft Lincoln Village 5 Specific Plan.

³ Cunningham Engineering, 2015. Reclaimed Water Master Plan for Village 5 Specific Plan: City of Lincoln, CA. May 19, 2015. Appendix D of the Draft Lincoln Village 5 Specific Plan.

**TABLE 3.16-1.
CITY OF LINCOLN HISTORIC WATER SUPPLIES**

Year	Supply (AF)		
	Groundwater	Surface Water	Total Supply
2008	1,085	9,443	10,528
2009	836	9,326	10,162
2010	962	8,253	9,215
2011	2,686	6,795	9,481
2012	2,620	7,471	10,091
2013	1,113	9,745	10,858
2014	691	8,257	8,948
2015	707	6,922	7,629

Source: Tully & Young, 2016. Village 5/SUD-B: SB 610 Water Supply Assessment- Prepared for the City of Lincoln. Final Draft. August 2016. Table 4-1.

Placer County Water Agency

PCWA provides wholesale treated water to the City of Lincoln and provides untreated, treated and irrigation water directly and indirectly to other wholesale and retail customers in Placer County. The City and the Plan Area are located in Zone 1 of PCWA's Western Water System. The City has and will continue to rely on treated surface water from PCWA as a primary source of water. According to the 2015 Urban Water Management Plans (UWMPs) from PCWA and the City, up to 37,000 acre-feet per year (AFY) will be available to the City of Lincoln for use to meet municipal and industrial demands upon City General Plan build-out, in 2050. However, with the recent slowdown in the economy and subsequent slowdown in new construction, the City anticipates a need for up to 20,336 AFY from PCWA through 2040, the latest year projected in the City's UWMP.^{4,5}

Although the City's contract with PCWA does not guarantee that water to meet City buildout demand will be available, PCWA's 2015 UWMP indicates that the quantity of potable water desired by the City will be available on a first-come, first-served basis, sufficient to meet the maximum day demands for buildout within the City limits (i.e., consistent with the 2050 General Plan).⁶ Based on PCWA's representation of what will be available to the City at build-out and PCWA's water rights and contract entitlements, it is likely that sufficient supply will be available to meet City buildout demand for PCWA water.

An important aspect of the City's projected build-out water supply from PCWA is that the City does not rely upon the development by PCWA of additional water rights or new water supply

⁴ Tully & Young, 2016. City of Lincoln 2015 Urban Water Management Plan, Adopted August 2016.

⁵ Placer County Water Agency, 2016. Placer County Water Agency 2015 Urban Water Management Plan, Prepared by Tully & Young. Adopted June 2, 2016.

⁶ Ibid.

sources. Rather, as indicated in the PCWA 2015 UWMP, existing PCWA water rights and contracts will be sufficient to provide the City with anticipated supplies.⁷

PCWA Treated Water Supply Contract

In 2012, the City entered into an updated water supply contract with PCWA for delivery of treated surface water. The PCWA Contract entitles the City to a Maximum Delivery Entitlement of 18,501,424.5 gallons (18.5 million gallons or 56.8 AF) of treated water supply per day. The contract distinguishes between regulated and unregulated deliveries as follows:

1. Maximum day Regulated Deliveries of **17,774,452** gallons (54.5 AF) per day; and
2. Maximum day Unregulated Deliveries of **726,972.5** gallons (2.2 AF) per day.

Regulated water deliveries are those deliveries where the City uses its system operations to deliver water on a demand pattern for certain uses within the City. Specifically, the City uses its facilities to regulate pressure and accommodate peak demands. Unregulated water deliveries are those water deliveries that are made to the City where PCWA uses its system operations to manage the water deliveries. PCWA's unregulated deliveries currently serve the City's "high elevation lots," which are outside of the Plan Area. The contract also contains opportunities for the City to purchase additional supplies beyond the Maximum Delivery Entitlement identified in the PCWA contract.

The City's PCWA contract provisions require PCWA to deliver water up to the maximum day delivery amount to the City for use in the City's service area. The contract contemplates delivery of water supplies derived from PCWA's water rights and entitlements as the basis for the supplies coming to the City. Water from PCWA is treated at PCWA's Foothill WTP and is then delivered to the City. The contract has a term of 20 years and a right of renewal for successive 20-year periods.

The maximum day water supply delivered to the City from PCWA's system is measured at the Lincoln Metering Station. In 2013, the most recent year without mandatory drought reductions, the City's maximum day (max day) regulated use under the contract was 13,944,160 gallons and the max day unregulated water use was 605,716 gallons. This delivery included water derived from NID's water assets – which is described in more detail below. The maximum day measurement represents the single day in the calendar year when the City uses the most water as measured at the Lincoln Metering Station. As such, the maximum day water use can be modified depending upon which sources of water are used during specific times of the year and managing the timing of peak demand on the City's system.

In 2015, PCWA indicated that the City's remaining unused peak flow capacity under its contract was approximately 3.8 million gallons on the regulated side and 121,000 million gallons on the

⁷ Ibid.

unregulated side. PCWA estimated this amount based upon 2013 demand figures – the last normal water year where demand reductions were not mandated by the State of California. The PCWA Letter indicates that PCWA has additional future treatment and delivery capacity of approximately 3.86 million gallons per day (mgd) of unallocated capacity at its Foothill WTP and Sunset WTP (see below for a discussion of water distribution). Historically, from 2006 through 2015, PCWA has delivered 5,425 to 7,825 AFY to the City.

Water Supply Sources

Water supplies discussed in the PCWA Contract for delivery to the City are based on PCWA's water rights and contracts and the reliability of underlying water rights and contracts held by PCWA.

PCWA's surface water supplies consist of water from the North Fork American River and its tributaries – including water stored in its Middle Fork Project (MFP) – under water right Permits 13856 and 13858; Central Valley Project (CVP) project supply under CVP Contract 14-060200-5082A from the American River; and water purchased from Pacific Gas & Electric Company (PG&E) from the Yuba and Bear Rivers under two contracts: the 1982 Zone 3 Contract Purchase Agreement and the February 27, 2015 Water Supply Agreement. PCWA uses a limited amount of surface water from small creeks under its pre-1914 appropriative water rights. Collectively, all of these water rights are the source waters constituting the supplies available under the PCWA Contract.⁸ **Table 3.16-2** summarizes PCWA's available water supplies under PCWA's various water rights, which could be used to meet contracted City of Lincoln demand.

**TABLE 3.16-2.
PROJECTED PCWA WATER SUPPLIES**

Supply	Average/ Normal af/yr	Single Dry Year af/yr	Multiple Dry Water Years		
			Year 1 af/yr	Year 2 af/yr	Year 3 af/yr
Pacific Gas & Electric	100,400	55,200	82,800	82,800	82,800
Middle Fork [American River] Project	120,000	120,000	120,000	120,000	120,000
Central Valley Project	32,000	16,000	24,000	24,000	24,000
Pre-1914	3,400	850	1,700	1,700	1,700
Total	265,800	152,450	228,500	228,500	228,500

Source: Tully & Young, 2015. Village 5/SUD-B: SB 610 Water Supply Assessment–Prepared for the City of Lincoln. Final Draft. June 2015. Table 4-3.

Water Treatment and Delivery Infrastructure

The Foothill WTP in Newcastle and the Sunset WTP in Rocklin treat water that is conveyed to the City of Lincoln. The Foothill WTP currently has capacity to treat 58 mgd (65,000 AFY) of raw

⁸ Ibid.

water.⁹ The Sunset WTP has capacity to treat 8 mgd (8,960 AFY) of raw water. The Ophir WTP has been designed but has not yet been constructed. The Ophir WTP was evaluated in the Foothill Phase II WTP and Pipeline Project EIR which was certified in July 2005 (State Clearinghouse No. 2004102002).¹⁰ The Ophir WTP would initially provide 30 mgd (33,600 AFY) of treatment capacity and it could be expanded to treat up to 120 mgd (134,416 AFY).

In 2008, PCWA constructed the Ophir Road Pump Station that pumps water from the Auburn Tunnel to the Foothill WTP and into the Dutch Ravine Canal system which runs to the Lincoln and Rocklin areas. The Ophir Road Pipeline project was completed in 2014 and included the construction of the first segment of the 60-inch diameter transmission main for the future Ophir WTP. Work also included improvements at the Ophir Road Pump Station and at two locations on Dutch Ravine.

The water supply from the Foothill WTP is conveyed through a network of miles of large diameter pipelines (24 through 42-inches in diameter). Treated water from the Sunset WTP travels less than a mile to the City of Lincoln city limits via a 30-inch pipeline. The treated water from both WTPs is conveyed to a PCWA metering station adjacent to the City's five million gallon (mg) concrete storage tank at Conspiracy Point which is located at the southeast corner of the Twelve Bridges development, near the easterly edge of the City of Lincoln city limits. The majority of the PCWA water deliveries to the City of Lincoln are stored in City owned storage tanks and then passed into the City's distribution system by gravity and a series of pipelines ranging from 16- to 30-inch water pipelines. In addition to the five mg tank, the City operates two additional tanks (one at 1.5 mg and the second at 3 mg) for a total of 9.5 mg of potable water storage.¹¹

Dry-year Reliability of PCWA Water Supplies

Table 3.16-2 shows projected PCWA water supplies during normal, single-dry and multiple dry years, from which the City's anticipated water demand would be met.

The City's water supply contract with PCWA provides that water deliveries in dry water years may be reduced but does not specify how any shortages would be allocated to the City or other wholesale or retail customers of PCWA. PCWA's 2015 UWMP presents projected shortages to Zone 1 customers during single-dry and multiple-dry years and states that the City could potentially experience the following reductions, based on 37,000 AFY of PCWA surface water supply that will be available to the City at buildout in 2050:

⁹ Impact Sciences, Inc., 2013. Sierra Vista Specific Plan Final EIS. Available: http://www.spk.usace.army.mil/Portals/12/documents/regulatory/eis/200601050-FEIS/ApxC_Alternative_4_Water_Supply_Pipeline_Impact_Analysis.pdf. Accessed on October 14, 2015.

¹⁰ Placer County Water Agency, 2005. Foothill Phase II Water Treatment Plant and Pipeline Project Draft EIR. Prepared by Environmental Science Associates. April 2005.

¹¹ City of Lincoln, 2006. City of Lincoln General Plan Update Draft Environmental Impact Report. SCH# 2005112003. October 2006.

- Up to a 5,000 AF reduction in deliveries of water from PCWA in a single dry water year at build out of the City's SOI as defined by the 2050 General Plan Update; and
- No reduction in each year of a multiple dry-year period.

This analysis does not anticipate a need for PCWA supplies to surpass 13,035 acre-feet by 2040. Therefore, for this assessment, projected single-dry year reductions are based on the PCWA maximum reduction of 25 percent in dry years.¹² PCWA's various supplies all have different dry year reduction values but the PCWA contract does not specify which water supply the City is to be served by. PCWA has indicated that supplies could be reduced by only 5 percent in multiple dry years.¹³

In 2014 and 2015, some of PCWA's water supplies were curtailed by the State Water Resources Control Board (SWRCB) through a regulatory action. PCWA had no diminution in supply reliability based upon this order due to its storage efforts in its upstream system. Specifically, PCWA did not reduce available supplies to the City of Lincoln even though the drought is the worst on record. All City of Lincoln demand reductions were either voluntary actions by the City residents or mandated through State Water Board regulatory action. PCWA's supplies remain firm.

Nevada Irrigation District

NID supplies irrigation, wholesale, and retail water to Nevada County and Placer County customers in its service area. Agricultural water use accounts for nearly 90 percent of the total demand on NID water supply. The remaining water supplied by NID is primarily delivered directly or through PCWA to single-family residential accounts.

In the City, NID is responsible for water service to outlying areas and to some sections of Lincoln where the City and NID boundaries overlap. In 2004, the City, PCWA and NID entered into temporary raw water sales agreement in which NID would supply raw water to PCWA treatment facilities for delivery to NID customers and developments that are planned to be incorporated into the City's service area upon annexation. The Plan Area is not located within the NID service area. However, because water is provided by NID to PCWA for treatment and delivery to the City and is part of the total City supply, it is discussed in this EIR.

The amount of water available to the City from NID is estimated to be approximately 12,000 AFY, based on demand estimates. The amount of water that would be made available to the City in the future has not been finalized, and the existing agreement has no clause expressly quantifying the available supply. However, NID has provided approximately 1,123 AF to

¹² Placer County Water Agency, 2016. Placer County Water Agency 2015 Urban Water Management Plan, Prepared by Tully & Young. Adopted June 2, 2016, p. 7-2.

¹³ Ibid., p. 7-3.

1,920 AFY in recent years to the City as presented in Table 4-4 of the Village 5 WSA (see Appendix H).

NID's 2015 Draft UWMP posits that water shortages to its overall water supply would only occur in the driest of years. In 2015, the driest year in California's history, NID experienced no water shortages. All reductions in deliveries to end-users were mandated by State Water Board regulations requiring reductions in consumptive use. However, in the event that shortages were to occur, NID would equally reduce water supplies between its domestic water customers and the City.

In September 2004, the City, PCWA and NID entered into a temporary raw water sales agreement pursuant to which NID supplied raw water to PCWA treatment facilities for delivery within the City's water service area. The delivery mechanism for these supplies has been PCWA's treatment and delivery systems. The City and NID are jointly planning a separate water treatment plant that would serve NID water and potentially PCWA water to various areas in Lincoln and Lincoln's SOI (see Appendix C within Appendix H of this EIR). This proposed facility could deliver as much as 17,500 AFY.

Water Supply Sources

As described in NID's 2015 UWMP,¹⁴ NID's water supplies consist of a variety of water rights and contracts that implicate the reliability of these supplies for current and future deliveries to the City. Specifically, NID has numerous pre-1914 appropriative water rights to waters in the Yuba River, Bear River and Deer Creek watersheds as well as post-1914 appropriative water rights to waters in the same watersheds. Collectively, these appropriative water rights allow for water diversions and collections to storage approximating 450,000 acre-feet of water each year. In addition to these rights, NID has a water supply contract with Pacific Gas & Electric Company for as much as 54,000 acre-feet of water as well as riparian rights that can be used for riparian purposes.

Carryover storage is the amount of water left in reservoirs at the end of a normal irrigation system. NID has nine primary storage reservoirs with a maximum storage capacity of 279,985 AFY. The average of NID's carryover storage supply is 129,400 AFY. Including carryover and other water supplies discussed above, NID anticipates that it will have approximately 477,000 acre-feet of water available in normal years and approximately 359,000 acre-feet available in dry years for its wholesale, retail, and raw water deliveries.

Water Treatment and Delivery Infrastructure

NID operates seven treatment plants with a combined capacity of 33.4 mgd. As previously mentioned NID supplies raw water to PCWA treatment facilities for delivery to NID customers in

¹⁴ Nevada Irrigation District, 2016. Nevada Irrigation District 2015 Urban Water Management Plan, prepared by Brown and Caldwell for the Nevada Irrigation District. Adopted June, 2016.

the City of Lincoln. On February 4, 2004, the City and NID entered into a Memorandum of Understanding (MOU) to assess the feasibility of providing the City with a treated water supply. Among the numerous efforts undertaken pursuant to the MOU was completion of the *Lincoln Area Water Treatment Plant Planning and Site Study* in August 2005 which identified that the new water treatment plant would be capable of meeting projected annual water demand of 17,500 AFY. Of this amount, approximately 70 percent would be allocated to the City, which is estimated to be approximately 12,000 AFY.

On July 4, 2007, the City and NID established a conceptual framework for the development of a water treatment facility including a Framework for Collaboration. The City and NID contemplate moving forward with the Regional Water Supply Project (NID RWSP) under the following four definitive agreements: (1) the respective service areas of NID and Lincoln; (2) the planning required to install the water treatment plant and associated facilities, including environmental evaluation (adopted by NID Board and Lincoln City Council in 2007); (3) terms and conditions of treated water service to be provided, at wholesale, by NID to Lincoln; and (4) the financing and construction of the identified water treatment plant. NID had planned to start operating the plant by 2015; however, planning, design, environmental review and permitting are not complete and are planned to take a number of years. In the interim, raw water from NID will continue to be treated at PCWA facilities for delivery to the City consistent with the 2004 agreement.

Dry-year Reliability of NID Water Supplies

Based on analyses in NID's 2015 Draft UWMP, it is anticipated that the City's supply from NID would be subject to reductions during dry periods at the same level as other NID customers. NID, as demonstrated in 2015, may not reduce supplies at all during dry years. Accordingly, the City is not anticipating any supply reduction from NID in dry or multi-dry years.

Groundwater

Regional Groundwater Resources

As described in Section 3.10 Hydrology, Drainage, and Water Quality, the Plan Area is underlain by the North American groundwater subbasin (North American Subbasin) of the Sacramento Valley Groundwater Basin. Groundwater levels in southern Placer County have generally decreased over time, while groundwater levels and quality under northern Placer County and the City have been relatively stable. The North American Subbasin's approximate storage capacity is 4.9 million AF of water (assuming a specific yield of 7 percent and an aquifer thickness of 200 feet across the 351,000 acre subbasin.¹⁵ As described in the 2007 Western Placer County Groundwater Management Plan (WPCGMP) the calculated sustainable yield for the North

¹⁵ California Department of Water Resources, 2006. California's Groundwater, Bulletin 118 (2003 Update), Basins and Subbasins of the Sacramento River Hydrologic Region, Sacramento Valley Groundwater Basin, North American Subbasin. January 20, 2006.

American Groundwater Subbasin is estimated to be 400,000 AFY.¹⁶ To date, the Subbasin has not been the subject of any proceeding to adjudicate rights to pump groundwater.

Western Placer County

In Western Placer County, the cities of Lincoln and Roseville, PCWA, and California American Water Company will rely upon some groundwater to meet municipal and industrial demands. Because of the large amounts of surface water provided by PCWA neither the City of Roseville, California Water Service Company (West Placer Service Area), or PCWA currently pump groundwater. As a result of the surface water supplies from PCWA and NID, the City of Lincoln has and will continue to limit groundwater to 10 percent of its overall supplies to meet emergency and peak demands during normal years. Service areas of the cities of Lincoln and Roseville, PCWA, and California American Water Company comprise a majority of the western portion of the North American Groundwater Subbasin.

The implementation of the WPCGMP, developed by the City, PCWA and the City of Roseville, would help ensure that groundwater levels are not significantly impacted as urban areas expand. It is also likely that additional groundwater would be available as agricultural uses that consume large volumes of water are converted to urban uses, which consume less water on a per-acre basis. Private agricultural users in Western Placer County also pump some groundwater to supplement surface water deliveries. This use is limited and, as described below, accounts for less than five percent of total agricultural water supplies. This is largely due to the availability of surface water supplies from PCWA. Groundwater pumping by private agricultural users is not anticipated to increase from existing levels as crop types are not likely to change substantially. Further, agricultural groundwater use will likely decrease as urbanization increases throughout the area. Therefore, no significant changes are expected in groundwater pumping in dry years in the Western Placer County portion of the North American Subbasin.

Eastern Sutter County

The portion of eastern Sutter County that overlies the North American Subbasin includes the Natomas Central Mutual Water Company (NCMWC) and the South Sutter Water District (SSWD). NCMWC's service area includes over 33,000 acres, a portion of which lies in Sutter County. NCMWC has rights and entitlements to over 120,000 AFY of surface water from the Sacramento River. Groundwater within NCMWC is pumped by privately owned wells to supplement surface water supplies. It is estimated that rice accounts for over 80 percent of crops grown within NCMWC. Despite the predominance of this water-using crop, groundwater levels within NCMWC's service area have remained relatively stable.

SSWD covers approximately 57,000 acres and supplies surface from the Bear River and other small, local waterways to supplement groundwater as needed. SSWD is considered a "supplemental" water district because it does not provide full service to landowners. Instead,

¹⁶ MWH, 2007. Western Placer County Groundwater Management Plan. November. p. 3-17.

SSWD allocates supplemental surface water supplies according to acreage of land owned. Similar to NCMWC, rice accounts for a majority of agricultural land use within SSWD's service area. Most of SSWD's customers are agricultural-based and use private wells to obtain the majority of their water supplies.

City of Lincoln Groundwater Resources

In addition to surface water, the City owns and operates five groundwater wells which are used to supplement surface water supplies and manage operational pressures.

As shown in **Table 3.16-3** between 2010 and 2015 the City pumped between 691 to 2,722 AFY of groundwater which represented approximately 10 percent of the total potable groundwater supply. The City currently maintains a goal of limiting groundwater use to 10 percent of its water supply (annual average) during normal years.¹⁷ However, pumping can vary substantially season to season, and may be higher during dry periods or during temporary infrastructure outages. The City is also able to manage groundwater pumping to optimize water conveyance within the City's existing pipeline system. As also shown in Table 3.16-3, projected groundwater pumping by the City between 2020 and 2040 is anticipated to range from 1,615 to 3,514 AFY based on the City's goal of using groundwater for no more than 10 percent of supply during normal years. In addition to the City of Lincoln pumping groundwater for municipal uses, groundwater is also pumped within the City's SOI to irrigate crops. As shown in Table 5-2 of the Village 5 WSA (see Appendix H), it is estimated that approximately 33,595 AFY of groundwater is pumped to irrigate approximately 6,506 acres of farmland. However, some agricultural lands within the Plan Area are currently served primarily by surface water supplies from PCWA.

**TABLE 3.16-3.
CITY OF LINCOLN GROUNDWATER PUMPING (AF)**

2010	2011	2012	2013	2014	2015	2020	2025	2030	2035	2040
962	2,561	2,722	1,066	691	707	1,615	2,127	2,905	3,301	3,514

Source: Tully & Young, 2015. Village 5/SUD-B: SB 610 Water Supply Assessment—Prepared for the City of Lincoln. Final Draft. June 2015. Tables 4-6 and 4-7.

The current groundwater pumping system has a combined capacity of 8.5 mgd (9,528 AFY) or about 75 percent of the current maximum day demand which is sufficient as an emergency irrigation supply for all but the hottest summer days. Increased use due to drought conditions requires wells to be taken off-line more frequently for service which affects the total capacity of the system on any given day. The City is planning to install additional wells within its SOI to be able to, when necessary in back-up and emergency situations, meet 75 percent of the average day demand at build out (approximately 34 mgd) with groundwater.

¹⁷ City of Lincoln, 2008. City of Lincoln 2050 General Plan. Adopted March 25, 2008. Appendix F: Water System Constraint Analysis.

The City is conducting ongoing groundwater investigations to help determine optimal well spacing and pumping schedules, and will analyze data from that effort over the next few years to develop a Lincoln area groundwater model to quantify recharge and recoverable groundwater volumes. The City is currently in discussions with the Regional Water Authority (RWA), PCWA, the County of Placer and the City of Roseville regarding the sharing of groundwater data in the Western Placer County area, and developing a mutually beneficial Integrated Water Resources Management Plan (IRWMP). The IRWMP will address anticipated water use policies and goals regarding surface water, groundwater and reclaimed water in Western Placer County.

The WPCGMP will likely be the basis technical document for groundwater supply in the City of Lincoln related to the 2014 Groundwater Sustainability legislation. At this time, the City and its regional partners are determining the nature and jurisdictional reach of the groundwater sustainability actions but there is no reason to conclude that the sustainability plan will differ from the WPCGMP currently in use.

In 2015, a review of the groundwater conditions in the area of the City was drafted to support the City's Water Supply Master Plan and 2015 UWMP update. The following information was taken from an internal memorandum about groundwater conditions:

Groundwater conditions in and around the City appear, in spite of the severe drought, relatively stable. The basin elevations have not seen significant long-term decline and in some cases have shown some recovery. Groundwater elevations have seen increased seasonal variability in some wells and decreased in others but the natural recharge has been sufficient to refill the basin in and around the City. This indicates that the basin in and around the City is operating within its safe yield. Although basin decline was caused by the 2011 canal failure and resulting emergency pumping, the basin was able to completely refill with no apparent long-term effects in the City area. This indicates that the 2011 pumping may have been above the area's safe yield, but did not cause a permanent decline in groundwater capacity. Unbroken periods of well records are difficult to locate in the area of this review but neighboring wells with new and old data show consistent elevations.

A hydrograph from the groundwater memorandum is provided as Appendix I within the WSA (see Appendix H of this EIR).

Reclaimed Water

The City of Lincoln owns and operates the Wastewater Treatment and Reclamation Facility (WWTRF) which was designed to produce recycled water that meets Department of Health Services (DHS) requirements in Title 22 of the California Code of Regulations for unrestricted reuse. Reclaimed water from the WWTRF is currently used for agricultural purposes at four sites with an area of about 400 acres. The WWTRF is projected to produce as much as 7,779 AFY of reclaimed water for City use. The anticipated reclaimed water uses within the City have been projected to account for as much as 6,822 AFY of the anticipated build-out water demand. Uses for reclaimed water include irrigation of park, school, and median landscapes (including along the SR 65 Bypass right of way) and industrial cooling and process water for a few of the City's

primary industries. The 2008 Expansion Plan and the 2012 update for the WWTRF contemplated expansion of the capacity of the facility to accommodate an increase in flow as the City's treated water demand increased. The 2008 Plan also considers two expansion options that could accommodate the wastewater flows from the City of Auburn and/or Placer County. Currently, the WWTRF is only treating wastewater generated by City of Lincoln and Placer County customers. The future capacity of the WWTRF will dictate the potential reclaimed water supply; however, treated water demand and wastewater generated from such demand will drive the quantity of water available for reuse after treatment. Based on information developed for the City's 2010 UWMP, the expansion of WWTRF contemplated in the 2008 Expansion Plan is expected to be postponed for a number of years. While an expansion to 5.9 mgd was completed in 2016, it has been estimated that the first phase of expansions envisioned under the Expansion Plan will not be complete until after 2020.

PCWA Raw Water

The City receives PCWA raw water for irrigation purposes from the Caperton Canal through a raw water contract paid for by the City of Lincoln. The PCWA raw water offsets potable water use within the City of Lincoln.

NID Raw Water

Areas within the City and its SOI receive NID raw water for irrigation purposes. This includes Turkey Creek Golf Course area as well as Lincoln Crossing. The water deliveries and payment obligations are not controlled by the City. The raw water offsets potential potable water use within the City of Lincoln.

Existing Plan Area Water Supply Facilities

Several public water facilities currently exist in the Plan Area, as shown in Figure 2-8 in Chapter 2, Project Description. This includes three City municipal groundwater wells located at Moore Road and Fiddymment Road (Well #8), Moore Road and Nelson Lane (Well #9), and Nicolaus Road and Nelson Lane (Well #2). An existing 18-inch transmission main located at Moore Road and Nelson Lane, and an existing 12-inch main located at Nicolaus Road and Nelson Lane would serve as points of connection for the V5SP water system.

As previously described, reclaimed water is provided by the City's WWTRF which is located adjacent to and south of the Plan Area. An existing 42-inch low pressure reclaimed water main is located on Fiddymment Road, south of Moore Road, which takes excess reclaimed water and discharges it into Auburn Ravine.

Regulatory Setting

Federal

Safe Drinking Water Act

The Safe Drinking Water Act (SDWA), passed in 1974, is the primary federal regulation intended to ensure safe drinking water for the public. Pursuant to the SDWA, the Environmental Protection

Agency (EPA) is required to set standards for the quality of drinking water and examine all states, jurisdictions, and water providers responsible for the implementation of these standards.

In accordance with the SDWA, the EPA must establish National Primary Drinking Water Regulations (NPDWR) for contaminants that may cause adverse public health effects.

Following a series of amendments, the SDWA also requires the regulation of more contaminants, protection of wellheads, new monitoring for particular substances, filtration for particular surface water systems, disinfection for particular groundwater systems, water system operator certification, and publication of consumer confidence reports.

State

Urban Water Management Planning Act

California Water Code Section 10610 et seq. applies to all public water systems that provide municipal water to more than 3,000 customers, or that supply at least 3,000 AFY of potable water. These public water suppliers are each required to prepare an Urban Water Management Plan (UWMP).

UWMPs represent key water supply planning documents for municipalities and water purveyors in California, and often form the basis of WSAs prepared for individual projects. The City of Lincoln adopted its 2015 UWMP in August 2016.

Water Supply Assessment

Public Resources Code (PRC) Section 21151.9 requires that a WSA be prepared for proposed projects as defined in the statute to ensure that long term water supplies are sufficient to meet the project's demands in normal, single dry and multiple dry years for a period of 20 years. Preparation of a WSA is required if a proposed action meets the statutory definition of a "project," which includes at least one of the following (California Water Code Section 20912(a)):

- A proposed residential development of more than 500 dwelling units;
- A proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space;
- A proposed commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space;
- A proposed industrial, manufacturing, or processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area; or
- A mixed use project that includes one or more of the projects specified in the above bullets.

Completion of a WSA requires collection of proposed water supply data and information relevant to the project in question, an evaluation of existing/current use, a projection of anticipated demand sufficient to serve the project for a period of at least 20 years, delineation of proposed

water supply sources, and an evaluation of water supply sufficiency under single year and multiple year drought conditions.

Written Verification of Water Supply

Government Code Section 66473.7 requires an affirmative written verification of sufficient water supply for subdivisions of 500 or more units from the applicable public water supplier. Also known as Senate Bill 221, this law is designed as a “fail-safe” mechanism to ensure that collaboration on finding the needed water supplies to serve a new large subdivision occurs early in the planning process. This verification must also include documentation of historical water deliveries for the previous 20 years, as well as a description of reasonably foreseeable impacts of the proposed subdivision on the availability of water resources of the region. Government Code Section 66473.7 (b)(1) states as follows:

“The legislative body of a city or county or the advisory agency, to the extent that it is authorized by local ordinance to approve, conditionally approve, or disapprove the tentative map, shall include as a condition in any tentative map that includes a subdivision a requirement that a sufficient water supply shall be available. Proof of the availability of a sufficient water supply shall be requested by the subdivision applicant or local agency, at the discretion of the local agency, and shall be based on written verification from the applicable public water system within 90 days of a request.”

In other words, as a result of the information contained in the written verification, a city or county may attach conditions to assure there is an adequate water supply available to serve the proposed project as part of the tentative map approval process. Written verification will be a condition of approval for the Village 5 Tentative Maps.

Water Conservation

On November 10, 2009, Governor Arnold Schwarzenegger signed SBX7-7, which requires each urban water supplier to select one of four methods for determining water conservation targets for 2020. This bill established a statewide goal of achieving a 20 percent reduction in urban per capita water use by 2020. The City is required to identify a water conservation target pursuant to SBX7-7, and has done so in preparing its 2015 UWMP. Based on the 2015 UWMP, the City’s daily per capita water use target is 193 gpd, which the City is required to achieve by 2020.¹⁸

Achieving the City’s 2020 conservation target will require reductions in per capita urban water use from current levels. This will require the City to continue and potentially increase water conservation measures in its existing service area, and will also require new service areas to use water-efficient indoor infrastructure and landscape features. A combination of new construction and adoption of conservation measures by existing water users will help the City meet its identified water use target.

¹⁸ Tully & Young, 2016. City of Lincoln 2015 Urban Water Management Plan, Adopted August 2016. p. 4-2.

Indoor Infrastructure

In January 2010, the California Building Standards Commission adopted the statewide mandatory Green Building Standards Code (CAL Green Code) that requires the installation of water-efficient indoor infrastructure for all new projects beginning after January 1, 2011. Most recently updated in 2016, the revised code will go into effect on January 1, 2017. CAL Green Code was incorporated as Part 11 into Title 24 of the California Code of Regulations. The CAL Green Code applies to the planning, design, operation, construction, use and occupancy of every newly constructed building or structure. The CAL Green Code requires residential and nonresidential water efficiency and conservation measures including water efficient fixtures, urinals, and toilets; compliance with the California Model Water Efficiency Landscape Ordinance (see below) standards for outdoor water use; and other water saving measures for new buildings and structures that will reduce the overall potable water use by 20 percent. The 20 percent water savings can be achieved by: (1) installing plumbing fixtures and fittings that meet the 20 percent reduced flow rate specified in the CAL Green Code, or (2) demonstrating a 20 percent reduction in water use from the building “water use baseline.”

California Model Water Efficiency Landscape Ordinance

The Water Conservation in Landscaping Act was enacted in 2006, and was updated in April, 2015 under Executive Order B-29-15, issued by Governor Brown. This law requires the California Department of Water Resources (DWR) to update the Model Water Efficient Landscape Ordinance (MWELo), with additional mandated water use reductions added in 2015. The MWELo, as updated, includes measures to replace lawns with drought-tolerant landscaping, increase enforcement, adjust water rate structures, and streamline government response. The City of Lincoln is in compliance with this state law and formally notified DWR of the City’s adherence to the State’s MWELo in a letter dated February 4, 2010. Because the City of Lincoln is a “local agency” under the MWELo, it must require project applicants to prepare plans consistent with the requirements of MWELo for review and approval by the City of Lincoln. The City has complied with all additional requirements deployed under Executive Order B-29-15.

The provisions of the MWELo are applicable to new construction with a landscape area greater than 500 square feet. The MWELo “highly recommends” use of a dedicated landscape meter on landscape areas smaller than 2,500 square feet, and requires weather-based irrigation controllers, soil-moisture based controllers, or other self-adjusting irrigation controllers for irrigation scheduling in all irrigation systems. The MWELo provides a methodology to calculate total water use based upon a given plant factor and irrigation efficiency. Finally, MWELo requires the landscape design plan to delineate hydrozones (based upon plant factor) and then assign a unique valve for each hydrozone (low, medium, or high water use).

Metering and Volumetric Pricing

In 2003, the Governor signed legislation that established the requirement for water purveyors to install meters on all service connections to residential and nonagricultural commercial buildings constructed prior to January 1, 1992. California Water Code Section 526 requires the City to

charge for water based upon the actual volume of water delivered. This requirement has minimal effect on demand projections, however, because the majority of the City homes and buildings were constructed after the introduction of plumbing restrictions in the 1990s. Water use for these areas is billed volumetrically.

Sustainable Groundwater Management Act

DWR has developed a Strategic Plan for its Sustainable Groundwater Management (SGM) Program. DWR's SGM Program will implement the new and expanded responsibilities identified in the 2014 Sustainable Groundwater Management Act (SGMA), as amended in 2015. Some of these expanded responsibilities include: (1) developing regulations to revise groundwater basin boundaries; (2) adopting regulations for evaluating and implementing Groundwater Sustainability Plans (GSPs) and coordination agreements; (3) identifying basins subject to critical conditions of overdraft; (4) identifying water available for groundwater replenishment; and (5) publishing best management practices for the sustainable management of groundwater.

The City, along with regional partners, is in the process of planning compliance activities under SGMA. Once the regional Groundwater Management Program is developed, it will overlay the Western Placer Basin, and will encompass and/or supersede other local groundwater planning efforts. Thus SGMA may alter the City's existing groundwater management activities envisioned in the Western Placer County Groundwater Management Plan (WPCGMP) and related efforts. The Sacramento Groundwater Authority, a Joint Powers Authority with a common interest in the North American Groundwater Subbasin, has established itself as a GSA. However, the role of the City of Lincoln related to this GSA has not yet been finalized. Eventually, under SGMA, agencies participating in the GSA will be required to develop a Groundwater Management Program that coordinates management among all stakeholders in the North American Groundwater Subbasin.

Local

City of Lincoln 2015 Urban Water Management Plan

The City's 2015 UWMP provides an analysis of current and future water supplies and demands relevant to the City, and provides an assessment of the availability of water supplies to meet future demands during normal, single, and multiple dry years. The 2015 UWMP tracks water supplied from PCWA, NID, and groundwater.

City of Lincoln 2050 General Plan

The following goals and policies from the 2050 General Plan are relevant to water supply and associated infrastructure

Policies

Goal PFS-2 Ensure provision of a water system with adequate supply transmission, distribution and storage facilities to meet the needs of existing and future development.

Policies

PFS-2.5 **Development in Annexation Areas.** The City shall not allow development within newly annexed areas until a potable water supply is obtained through Placer County Water Agency (PCWA) or

Nevada Irrigation District (NID) or, where appropriate, other water districts. For purposes of this policy, potable water will be considered obtained when a written confirmation of supply of surface water is received from the appropriate water agency and a funding mechanism acceptable to the City is in place to pay for any improvements necessary for the delivery of treated water. Applications for new development can be processed prior to obtaining appropriate will-serve documentation, but the project will not be approved prior to receiving this documentation.

- PFS-2.7 **Groundwater Supplies.** The City shall consider development of groundwater supplies in the western portions of the City's sphere of influence to provide emergency back up and to supplement the domestic supply provided by the PCWA and NID.
- PFS-2.9 **Water Storage Requirements.** The City shall condition new development on availability of storage that meets the following parameters:
- Equalizing Storage (for meeting peak flows) – 25 percent of maximum day demand.
 - Fire Reserve – Provide fire reserve as required by the Insurance Services Office (ISO) or as required by the City Fire Chief and City Engineer.
 - Emergency Reserve – 33 percent of the total of Equalizing Storage and Fire Reserve.
- PFS-2.14 **Development Requirements.** The City shall require new development to be responsible for construction of water transmission and distribution lines less than 18 inches in diameter. Provision will be made allowing reimbursement from Third Parties should such lines result in an “over-sizing” for a particular development.
- PFS-2.17 **Water Conservation Measures for New Development.** The City shall require new development to use the best available technologies (BAT) for water conservation, including, but not limited to water-conserving water closets, showerheads, faucets, and water conserving irrigation systems.

The relationship of these 2050 General Plan policies to the V5SP is included in Chapter 5.

City of Lincoln Groundwater Management Plan

The City of Lincoln adopted a Groundwater Management Plan (GMP) in 2003. The Plan's objectives are to: (1) augment the overall water supply through conjunctive use and other means, (2) project groundwater quality, (3) implement a groundwater monitoring program, and (4) develop a public participation program. The GMP will remain in effect unless superseded by SGMA; see also the discussion of the SGMA, above.

Western Placer County Groundwater Management Plan

- The City adopted the WPCGMP in 2007. The primary objective of the WPCGMP is to maintain groundwater resources to meet backup, emergency, and peak demands without adversely affecting other groundwater users within the WPCGMP area. It seeks to achieve this objective by implementing the following groundwater Basin Management Objectives: Management of the groundwater basin shall not have a significant adverse effect on groundwater quality;
- Manage groundwater elevations to ensure an adequate groundwater supply for backup, emergency, and peak demands without adversely impacting adjacent areas;
- Participate in State and federal land surface subsidence monitoring programs;
- Protect against adverse impacts on surface water flows in creeks and rivers due to groundwater pumping; and

- Ensure groundwater recharge projects comply with State and federal regulations and protect beneficial uses of groundwater.

The WPCGMP is designed to assist the City of Lincoln and other regional water purveyors in maintaining a safe, sustainable, and high-quality groundwater resource within the North American Groundwater Subbasin. The WPCGMP will remain in effect until incorporated into or superseded by planning requirements under the SGMA.

Water Forum Agreement

The Water Forum Agreement (Agreement) has been negotiated and entered into among water managers from Sacramento, Placer, and El Dorado Counties. The Agreement targets two co-equal objectives: (1) providing a reliable and safe water supply for the region's economic health and planned development through 2030; and (2) preserving fishery, wildlife, recreational, and aesthetic values of the Lower American River. PCWA signed the Agreement in 2000, and as such has agreed to specific water management actions under a range of hydrologic events within the American River Basin and Folsom Reservoir. PCWA currently deploys best management practices consistent with the Agreement, and considers these in its 2015 UWMP. Subject to certain conditions, the Agreement requires PCWA to release up to 47,000 AFY of water in drier years to replace water diverted above the Water Forum Agreement 1995 baseline volumes. PCWA is to make releases contingent upon the following conditions: its ability to transfer released water for use below the Lower American River on terms acceptable to PCWA; and PCWA's determination that it has sufficient water in its reservoirs to make the additional releases in dry years, *without* jeopardizing supplies provided to PCWA customers.

Analysis, Impacts, and Mitigation

Significance Criteria

Consistent with Appendix G of the CEQA Guidelines, the proposed project would result in a significant effect if it would:

- (1) Not have sufficient water supplies available to serve the project from existing entitlements and resources, or if new or expanded entitlements would be needed; or
- (2) Require or result in the construction of new water treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

Methods and Assumptions

The impact analysis for water supply, including sufficiency of available water supplies and existing and proposed infrastructure relies on the data, conclusions and recommendations identified in the following documents:

- *Village 5/SUD-B Development Project SB 610 Water Supply Assessment*, prepared by Tully & Young for the City of Lincoln, Final Draft, August 2015 (included as Appendix H of this Draft EIR)
- *Water Master Plan for Village 5 Specific Plan*, prepared by Cunningham Engineering for the City of Lincoln, Draft, February 5, 2016¹⁹
- *Reclaimed Water Master Plan for Village 5 Specific Plan*, prepared by Cunningham Engineering for the City of Lincoln, November 17, 2015²⁰

Impacts and Mitigation Measures

Impact 3.16-1: Implementation of the proposed project would result in an increased demand for water supply that could result in the need for new or expanded entitlements or supply sources.

Based on the water demand factors developed for residential and non-residential uses presented in the Village 5 WSA (see Appendix H), proposed project water demand, including water needed for construction and ongoing use, was estimated and is presented in **Table 3.16-4**. As shown in Table 3.16-4, total water demand for the Plan Area is estimated to be 6,460 AFY at buildout of the proposed project in 2040 and 1,202 AFY at buildout of Area A in 2020.

Water supplies available to meet water demand through 2040 are presented in **Table 3.16-5**. As previously noted, based on PCWA's UWMP, it is anticipated that approximately 37,000 AFY of treated water from PCWA would be available to the City for use to meet municipal and industrial demand. However, with the recent slowdown in the economy and subsequent slowdown in new construction, the City does not anticipate a need for more than approximately 13,035 AFY of treated surface water from PCWA to meet demand through 2040. As also previously discussed, available supplies from NID are anticipated to include 12,000 AFY of water from NID. The amount of groundwater projected through 2040 (as shown in Table 3.16-5) is consistent with the City's goal to use groundwater pumping for 10 percent of supply or less on average during normal years. The City will continue to exercise flexibility in groundwater pumping on a daily, seasonal, and annual basis, or during emergency conditions, as discussed above, to maintain management flexibility for the City's water supply. Reclaimed water is also available for non-potable uses such as agricultural, landscape irrigation, and industrial and commercial uses. It is anticipated that up to 6,063 AFY of reclaimed water could be made available to support City water demands through 2040.

¹⁹ Cunningham Engineering, 2016. *Water Master Plan for Village 5 Specific Plan*: City of Lincoln, CA. May 19, 2016. Appendix C of the Lincoln Village 5 Specific Plan.

²⁰ Cunningham Engineering, 2015. *Reclaimed Water Master Plan for Village 5 Specific Plan*: City of Lincoln, CA. May 19, 2016. Appendix D of the Lincoln Village 5 Specific Plan.

**TABLE 3.16-4.
ESTIMATED PROPOSED PROJECT WATER DEMANDS**

Category	Unit Count or Acreage						Demand Factor (af/du or af/ac)	Demand (af/yr)						
	Current	2020	2025	2030	2035	2040		Current	2020	2025	2030	2035	2040	
Residential														
Rural Residential	0	80	160	240	320	320	0.19 (indoor)	0	15	30	46	61	61	
							2.98 (outdoor)	0	238	477	715	954	954	
Country Estates	0	163	326	652	869	869	0.19 (indoor)	0	31	62	124	165	165	
							0.67 (outdoor)	0	109	218	437	582	582	
Low Density	0	505	1,009	2,018	2,690	2,690	0.19 (indoor)	0	96	192	383	511	511	
							0.27 (outdoor)	0	136	272	545	726	726	
Medium Density	0	531	1,062	2,123	2,830	2,830	0.18 (indoor)	0	96	191	382	509	509	
							0.21 (outdoor)	0	112	223	446	594	594	
High Density	0	353	705	1,058	1,441	1,441	0.17 (indoor)	0	60	120	180	245	245	
							0.04 (outdoor)	0	14	28	42	58	58	
Mixed Use	0	0	0	56	56	56	0.17 (indoor)	0	0	0	10	10	10	
							0.03 (outdoor)	0	0	0	2	2	2	
DU Total														
								Indoor Subtotal	0	298	595	1,124	1,501	1,501
								Outdoor Subtotal	0	610	1,219	2,187	2,916	2,916
Commercial														
Village Mixed Use	0	4	7.5	7.5	7.5	7.5	0.99	0	4	7	7	7	7	
Village Center	0	17	33.9	34	34	34	0.99	0	17	34	34	34	34	
Village Commercial	0	25	49.1	98	196	196	0.99	0	25	49	97	194	194	
Office/Commercial	0	20	40.0	80	160	160	0.99	0	20	40	79	158	158	
Business and Professional	0	11	21.4	43	43	43	1.22	0	13	26	52	52	52	
								Indoor Subtotal	0	79	155	249	446	446
Public														
Elementary School	0	0	12	24	36	36	2.57	0	0	31	62	93	93	
Middle School	0	0	0	20	20	20	2.57	0	0	0	51	51	51	
High School	0	0	0	49	49	49	2.57	0	0	0	125	125	125	
Public/Quasi-Public	0	0	7	14	14	14	2.80	0	0	20	38	38	38	
								Indoor Subtotal	0	0	50	276	307	307

**TABLE 3.16-4.
ESTIMATED PROPOSED PROJECT WATER DEMANDS**

Category	Unit Count or Acreage						Demand Factor (af/du or af/ac)	Demand (af/yr)					
	Current	2020	2025	2030	2035	2040		Current	2020	2025	2030	2035	2040
Park	0	19	37	75	149	149	3.55	0	67	131	266	529	529
Linear Park	0	5	10	20	20	20	3.73	0	18	36	73	73	73
Ag/Preserve	0	344	344	344	344	344	0.00	0	0	0	0	0	0
Right of Way Landscaping	0	28	56	113	226	226	0.19	0	5	11	21	43	43
Open Space	0	1059	1059	1059	1059	1059	0.00	0	0	0	0	0	0
							Outdoor Subtotal	0	91	178	360	645	645
Other Miscellaneous Uses													
Construction Water	0	5	5	5	0	0	1	0	5	5	5	0	0
							Outdoor Subtotal	0	5	5	5	0	0
							Indoor Total	0	376	801	1,670	2,254	2,254
							Outdoor Total	0	706	1,402	2,552	3,560	3,560
							Total	0	1,082	2,203	4,223	5,814	5,814
							Outdoor Non-revenue water 11%	0	78	156	283	395	395
							Indoor Non-revenue water 11%*	0	42	89	185	250	250
							Total Indoor	0	418	890	1,856	2,504	2,504
							Total Outdoor	0	784	1,558	2,835	3,956	3,956
							Total Proposed Project Demand	0	1,202	2,447	4,691	6,460	6,460

NOTE:

*Non-revenue water is water that is lost before it reaches the customer, such as through leaks.

SOURCE: Tully & Young, 2015. Village 5/SUD-B: SB 610 Water Supply Assessment—Prepared for the City of Lincoln. Final Draft. June 2015. Table 2-3.

**TABLE 3.16-5.
PROJECTED WATER SUPPLIES TO MEET DEMANDS (AF)**

Source	2020	2025	2030	2035	2040
PCWA	8,939	9,766	11,400	12,491	13,035
NID	2,123	2,364	2,366	2,911	5,267
Groundwater	1,229	1,348	1,530	1,711	2,034
Recycled Water	3,300	3,748	4,381	5,015	6,063
Total	15,591	17,226	19,677	22,128	26,399

Source: Tully & Young, 2015. Village 5/SUD-B: SB 610 Water Supply Assessment—Prepared for the City of Lincoln. Final Draft. June 2015. Table 5-3 and Table 5-4.

Table 3.16-6 presents water supply and demand comparisons during normal, single-dry and multi-dry hydrologic conditions for all water supply sources through 2040, including demand and

supply for the proposed project. Water supply is projected to be sufficient under normal, single- and multi-year conditions to meet projected demand through 2040 without the need to implement demand reduction measures.

**TABLE 3.16-6.
WATER DEMAND AND SUPPLY COMPARISONS DURING NORMAL, SINGLE-DRY, AND MULTIPLE-DRY YEARS**

Year	Projected Baseline Water Demand (AF)			Hydrologic Year Type	Water Supplies (AF)					
	City of Lincoln	Village 5	Total		PCWA Supply	NID Supply	Groundwater Supply	Recycled Water	Total Supply	Surplus
2020*	11,089	1,202	12,291	Normal	12,239	12,000	2,854	3,300	31,393	19,102
				Single Dry	9,929	12,000	2,523		24,452	12,162
				Multiple Dry	12,577	12,000	2,788		27,365	15,074
2025	11,030	2,447	13,478	Normal	15,421	12,000	3,117	3,748	34,286	20,808
				Single Dry	11,566	12,000	2,731		30,045	16,567
				Multiple Dry	14,650	12,000	3,040		33,438	19,960
2030	10,604	4,691	15,296	Normal	18,335	12,000	3,472	4,381	38,188	22,892
				Single Dry	13,751	12,000	3,013		33,145	17,849
				Multiple Dry	17,418	12,000	3,830		37,179	21,883
2035	10,653	6,460	17,113	Normal	21,187	12,000	3,820	5,015	42,022	24,909
				Single Dry	15,890	12,000	3,290		36,195	19,082
				Multiple Dry	20,128	12,000	3,714		40,857	23,744
2040	13,876	6,460	20,336	Normal	25,533	12,000	4,360	6,063	47,956	27,620
				Single Dry	19,150	12,000	3,721		40,934	20,598
				Multiple Dry	24,256	12,000	4,232		46,551	26,216

NOTE:

* 2020 demands are assumed to be consistent with full buildout of Area A, and are thus used as an estimate of total Area A demands (see text).

SOURCE: Tully & Young, 2015. Village 5/SUD-B: SB 610 Water Supply Assessment—Prepared for the City of Lincoln. Final Draft. August. Table 5-4.

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As shown in Table 3.16-4, total water demand for the proposed project at build out is estimated to be 6,460 AFY. Total demand for the City at 2040, including the proposed project, is projected to be 20,336 AFY.

Normal Year Supplies

During normal years, the City of Lincoln would continue to rely on its portfolio of water supplies. As shown in Table 3.16-6, total supplies available to serve the City in 2040 under normal years, including the proposed project, would be 46,551 AFY, which includes over 26,000 AFY of surplus. PCWA would continue to be the primary supply source of potable water. In the 2010 UWMP the City anticipated receiving up to 37,000 AFY from PCWA; however, with the recent

slowdown in the economy and subsequent slowdown in new construction, the City does not anticipate a need for more than 13,035 AFY of potable water from PCWA to meet demand through 2040. Availability of PCWA water to support the City is substantiated through PCWA's 2015 UWMP,²¹ which is hereby incorporated by reference. In summary, according to the UWMP, PCWA provides wholesale water supply to the following entities: City of Lincoln, California American Water Company, the City of Rocklin, the Town of Loomis, the communities of Applegate, Weimar, Meadow Vista, Colfax, Gold Run, Monte Vista, and Dutch Flat, as well as other small purveyors and agricultural producers outside of the City of Lincoln (Zone 5). PCWA's available water supplies will total 233,800 AFY as of 2020, and 274,800 AFY by 2045. These volumes are more than sufficient to meet all existing and anticipated demands on PCWA water, inclusive of the City of Lincoln and all other users in 2020 (177,351 AFY total demand) through 2045 (256,060 AFY total demand).

In addition, as described previously, the City is currently working with NID to receive approximately 12,000 AFY of potable water from NID facilities. Availability of NID water to support the City is substantiated through NID's 2015 UWMP,²² which is hereby incorporated by reference. In summary, according to the UWMP, NID provides wholesale water supply to the following entities: City of Grass Valley, City of Nevada City, Bitney Springs LLC, Lake Vera Mutual, and PCWA (for customers in the City of Lincoln). NID also supplies agricultural producers in its service area. NID's available water supplies will total 360,800 as of 2020, and 360,800 AFY by 2040. These volumes are more than sufficient to meet all existing and anticipated demands on NID water, inclusive of anticipated supplies for the City of Lincoln, in 2020 (178,919 AFY total demand) through 2040 (209,521 AFY total demand).

In addition to surface water supplies, groundwater would also be used to meet water demand. The City is expected to increase pumping during normal year conditions from approximately 1,000 AFY under existing conditions to approximately 4,360 AFY by 2040 (see Table 3.16-6). This is consistent with the City's goal to use groundwater pumping for no more than 10 percent of water supply during normal years.

Combined with the City's trend and goal of conjunctively managing groundwater elevations in the North American Subbasin together with PCWA deliveries that have historically been reliable in even the driest years,²³⁻²⁴ the North American Subbasin is expected to continue to sustainably provide for the supplemental groundwater needs of the City. Groundwater elevations throughout Western Placer County have remained relatively stable for the past 25 years. As documented in the WPCGMP, groundwater elevations in many locations have actually risen during that time.

²¹ Placer County Water Agency, 2016. Placer County Water Agency 2015 Urban Water Management Plan, Prepared by Tully & Young. Adopted June 2, 2016.

²² Nevada Irrigation District, 2016. 2015 Urban Water Management Plan. Adopted May, 2016.

²³ Conservation by Lincoln in the 2014 drought period has been done voluntarily and additional supplies are available.

²⁴ Placer County Water Agency, 2016. Placer County Water Agency 2015 Urban Water Management Plan, Prepared by Tully & Young. Adopted June 2, 2016.

Since 2007, groundwater levels throughout the WPCGMP area have remained relatively stable.²⁵ As urbanization occurs in and around Western Placer County and the City of Lincoln, annual groundwater pumping from the North American Subbasin is not anticipated to change significantly from existing quantities for the following reasons:

- (1) Availability of surface water supplies from PCWA and NID would continue to limit reliance on groundwater to meet municipal and industrial and agricultural water demands;
- (2) As urbanization occurs, groundwater pumping for municipal and industrial demands would increase but would likely be more than offset by the reduction in groundwater pumping by private agricultural users; and
- (3) Efforts by partners of the WPCGMP would help maintain sustainable groundwater resources in western Placer County.

Single-dry and Multi-dry Year Supplies

During single-dry and multi-dry water years, the City's surface water supplies could be subject to reductions due to characteristics of PCWA's and NID's sources of supply. Based on PCWA water supply availability data, the City could be subject to a reduction in PCWA supplies during a single-dry year but likely no reduction during multiple-dry years. According to PCWA, based on criteria outlined in State Water Board Resolution No. 2016-0029, PCWA is able to calculate a 0 percent mandatory conservation target for its wholesale water customers, including the City of Lincoln, including during multiple dry-year scenarios.²⁶ For example, in June of 2016, PCWA issued a letter to the City indicating that PCWA estimates full deliveries for the next three years to be equivalent to the 2013 total demand of the City, or approximately 9,690 AFY.

While there remains a possibility that future curtailments in PCWA supply could be anticipated during single-dry year events, as described previously, the City does not anticipate a need for more than about 13,035 AFY of treated surface water from PCWA to meet demand (Table 3.16-5). Therefore, for this assessment, projected single-dry year reductions are conservatively based on the PCWA maximum reduction of 25 percent during dry years.²⁷ PCWA's various supplies all have different dry year reduction values, but the PCWA contract does not specify which water supply the City is to be served by. PCWA has indicated that supplies could be reduced by only five percent during multiple dry years.²⁸

While the Plan Area would not be served by NID, water supplied by NID will continue to contribute to the City's general water supply through buildout of the proposed project. For example, as described previously, the City is currently working with NID to receive up to

²⁵ Tully & Young, 2016. City of Lincoln 2015 Urban Water Management Plan, Adopted August 2016.

²⁶ Rickards, Brian, PE, Placer County Water Agency. Personal communication to Matthew Brower, City Manager, City of Lincoln, June 6, 2016.

²⁷ Placer County Water Agency, 2016. Placer County Water Agency 2015 Urban Water Management Plan. Prepared by Tully & Young. Adopted June 2, 2016. p. 7-2.

²⁸ Ibid., p. 7-3.

12,000 AFY of treated water from NID facilities. Based on analyses in NID's 2015 UWMP, it is anticipated that the City's supply from NID would be subject to reductions during dry periods at the same level as other NID customers. NID - as demonstrated in 2015 when all reduced water deliveries in NID's service area resulted from the State Water Board's mandated water conservation requirements, rather than a lack of supply - may not reduce water supplies at all during dry years. City implementation of mandatory drought restriction measures (emergency stage alerts, drought contingency plan, adherence to state conservation mandates), when necessary, could also help to further manage water demand during single-dry years.

To manage water supplies, the City would increase groundwater pumping to supplement any shortages resulting from curtailments to its PCWA and NID supplies; however, any groundwater pumping would be consistent with the goal of limiting groundwater pumping to a long term average of no more than 10 percent of the City's overall supply during normal years. Adherence to mandatory conservation measures, including CAL Green Code requirements for deploying indoor and outdoor water use efficiency measures, as well as adherence to MWELo provisions for landscape watering, would help to further conserve water, especially during single and multiple dry years.

Table 3.16-6 summarizes the City's anticipated water supply management strategy during single and multiple dry years. Additionally, conservative modifications to the estimated demands of the V5SP have been incorporated to reflect conditions expected during single dry and multiple dry year events. These include:

- **Single Dry Year:** Landscape irrigation demands would increase to reflect an earlier start of landscape irrigation season due to limited rainfall during the single driest year. This increase applies only to the outdoor portion of a customer's demand, and an adjustment factor of 5 percent is applied to the total normal-year water demand in order to conservatively reflect this increase in landscape irrigation demand.
- **Multiple Dry Years:** During multiple dry years, demands are also expected to increase during the first in a series of dry years (as discussed for single dry year). However, during the second and third consecutive dry years, demands also are expected to reflect water shortage contingency plans implemented by the applicable municipal water purveyor. During the second year, a targeted reduction of 10 percent is anticipated. The resulting demand, however, only reflects a 5 percent reduction to accommodate for conservatively low participation by customers. During the third year, a targeted conservation reduction of 20 percent is anticipated. For this analysis, however, third dry year demands are reduced by only 10 percent, to accommodate for conservatively low participation by customers. Therefore, during multiple dry year conditions, demands both increase due to reduced effective precipitation, but then subsequently decrease to reflect implementation of short-term conservation measures.

Effects of Climate Change

Climate change is an increasingly critical long-term planning consideration for the City and its water suppliers. Specifically, climate change carries the potential to affect the quantity and timing of water resources available in Northern California, including in the service areas of PCWA, NID, and the City of Lincoln. Key considerations incited by climate change as relevant to water resources management in the region include:

- **Elevated Air Temperature.** Climate change could result in higher air temperatures during both winter and summer, with winter temperatures expected to increase by up to 4 degrees F and summer temperatures by up to 8 degrees F by 2100.
- **Reduced Snowpack.** Elevated air temperature, along with other climactic changes, could result in reduced winter snowpack. Higher temperatures could result in a net increase in rainfall, coinciding with a net decrease in snowfall, in the high Sierra. The resulting smaller snowpack would reduce water managers' ability to capture precipitation in reservoirs, and therefore could reduce available water supplies.
- **Changes in Runoff.** While snowpack is expected to decrease, runoff is expected to increase, as more precipitation is expected to fall as rain rather than snow. This could result in a shift from spring toward winter runoff periods, thereby increasing winter period runoff and flood management.
- **Streamflow.** According to data provided in the Cosumnes American Bear Yuba (CABY) Integrated Regional Water Management Plan,²⁹ PG&E reviewed streamflow from 1942 through 2011 along 13 streams, and has identified a net reduction in unimpaired runoff in many western Sierra streams, including in the areas that serve as catchment for surface water supplies to the City.

While the ultimate magnitude of climate change effects on regional water supply remains difficult to predict, water purveyors serving the City are taking active steps to manage their water supplies in the face of the resulting uncertainty. NID is working with regional partners (identified in the CABY IRWMP) to develop and eventually deploy a long-term climate program to help assure resiliency for the region. The program includes coordination and development of state policies and programs, increased knowledge sharing, increased coordination and collaboration, securing of funding, monitoring implementation of adaptive management strategies, reducing GHG emissions, gathering data, and investing in infrastructure and monitoring. NID in particular is performing measures to become more climate-adaptable, including expansion of conservation efforts, exploring regional water storage, increase watershed permeability through high alpine meadow restoration and other measures, and reduce underbrush and canopy cover to promote

²⁹ Cosumnes American Bear Yuba, 2014. Cosumnes American Bear Yuba Integrated Regional Water Management Plan.

infiltration of snowmelt. PCWA is also developing long term strategies and measures to manage the effects of climate change, while the City of Lincoln maintains groundwater pumping capacity that it will use through the planning horizon to support back up and emergency supplies through 2045 and likely beyond, further helping to minimize the effects of climate change on water supply availability.

Reclaimed Water Supplies

Reclaimed water would be used to provide irrigation and other approved uses within the Plan Area. As identified in the Village 5 Reclaimed Water Master Plan, the Average Dry Weather Flows (ADWF) generated by the proposed project total 4,317 AFY.³⁰ Wet weather flows would be greater than this flow, but for the purposes of supply planning is not considered due to infrequency of occurrences. For the purposes of reclaimed water supply estimates, it is assumed that the ADWF are reduced by 25 percent for solids removal at the WWTRF. Thus, a net available reclaimed water supply of 3,237 AFY or 2.89 mgd would result. Using the demand factors presented in Village 5 Reclaimed Water Master Plan, the proposed project Maximum Day Demand for reclaimed water would be 1.79 mgd.³¹ It is anticipated that this demand would be realized each irrigation day during the summer months. Based on typical irrigation patterns it is assumed that irrigation would occur five days per week during the summer months, allowing public use of parks and facilities over the weekends without irrigation occurring. During dry winters it is assumed that irrigation would occur three days per week during the spring and fall months and only one day per week during the winter months. Based on the projected reclaimed water demand and available supply generated by the proposed project there would be sufficient reclaimed water on a daily basis at build out in 2040. Additional wastewater may also be available for treatment and reclamation from other anticipated developments outside of the project.

Transition from Agricultural to Urban Water Use

PCWA is the current (surface) water supplier for existing agricultural use within the Plan Area. Based on information contained in its 2015 UWMP, PCWA serves over 300 commercial agricultural operations in Zone 1 and Zone 5 combined. Zone 1 canal customers (supplying commercial agriculture, irrigation, landscape, and metered end users) currently consume 60,612 AFY of water. PCWA's UWMP anticipates that this water use will continue for the foreseeable future, at least through 2045, at similar rates.³² However, approximately 1,221 acres of irrigated agricultural land would be converted to urban uses within the Plan Area. This would include 1,191 acres of rice, 22 acres of alfalfa, and 8 acres of rotated irrigated cropland (please see Table 3.2-1, Section 3.2, Agriculture and Forestry Resources, for additional detail).

³⁰ Cunningham Engineering, 2015. Reclaimed Water Master Plan for Village 5 Specific Plan: City of Lincoln, CA. May 19, 2015. Appendix D of the Lincoln Village 5 Specific Plan.

³¹ Ibid.

³² Placer County Water Agency, 2016. Placer County Water Agency 2015 Urban Water Management Plan. Prepared by Tully & Young. Adopted June 2, 2016.

Reductions in irrigated agricultural land use within the Plan Area would largely offset urban water demand and use. This offset would minimize the amount of additional water needed beyond that currently diverted and delivered by PCWA to the Plan Area and the City of Lincoln.

Summary

More than sufficient water supplies (up to 46,551 AFY in 2040) would be available to meet anticipated demand under normal, single-dry and multi-year conditions to meet all of the water demands of the City through 2040 (20,336 AFY) including the V5SP at buildout (6,460 AFY), with existing supply sources and without the need for new or expanded entitlements or supply sources beyond those already in process. Through 2040, the City would rely upon potable water from PCWA and NID, groundwater and reclaimed water to meet water demands within its service area. During single-dry and multiple-dry years, the City may experience curtailments of its potable water supplies from PCWA and NID. To manage potable water supplies, the City would increase groundwater pumping to supplement shortages resulting from curtailments to its PCWA and NID supplies, consistent with its 10 percent goal. The City would also deploy water conservation measures at minimum during the second and third consecutive dry year, during a multiple year drought. Furthermore, as a condition of approval for all tentative maps within the V5SP area, the City would require written verification demonstrating that there is sufficient water supply as required by Government Code Section 66473.7 (a)(1). Therefore, the proposed project impact on water supply is considered to be **less than significant**.

Area A

As shown in Table 3.16-6 total water demand for Area A, including construction period water demand, would be 1,202 AFY. Total demand for the City in 2020, including the built out portions of the proposed project, is projected to be 12,291 AFY of water. Total supplies are estimated to be no less than 24,452 AFY under normal, single-dry and multi-year conditions. Therefore, sufficient potable water supplies would be available to meet the water demands for Area A development, including construction demand. No new or expanded entitlements or water supply sources would be required to adequately serve Area A. Furthermore, as a condition of approval for the Area A subdivision maps, the City would require written verification demonstrating that there is sufficient water supply as required by Government Code Section 66473.7 (a)(1). Therefore, the build-out of Area A would have a **less than significant** impact on water supply.

Mitigation Measures

None required.

Impact 3.16-2: Implementation of the proposed project would result in an increased demand for water supply that could result in the need for new or expanded treatment, storage or conveyance facilities, which could have significant environmental effects.

As described above under Impact 3.16-1, the City's water supplies have historically included surface water treated and delivered from PCWA (including NID raw water supplies) as well as City owned and operated groundwater wells.

Potable Water Supply Infrastructure

PCWA's Foothill WTP in Newcastle and Sunset WTP in Rocklin treat surface water that is conveyed to the City of Lincoln via a series of pipelines and canals. The Foothill WTP currently has a capacity of 58 mgd (65,000 AFY). The Sunset WTP has the capacity to treat up to 8 mgd (8,961 AFY) of water. In 2008, PCWA constructed the Ophir Road Pump Station that pumps water from the Auburn Tunnel to the Foothill WTP and into the Dutch Ravine Canal system which runs to the Lincoln and Rocklin areas. The Ophir Road Pipeline project was completed in 2014 and included the construction of the first segment of the 60-inch diameter water transmission main for the future Ophir WTP. Work also included improvements at the Ophir Road Pump Station and at two locations on Dutch Ravine.

Potable water from both the Foothill and Sunset WTPs is conveyed to a PCWA metering station adjacent to the City's 5 mg storage tank at Conspiracy Point, located at the southeast corner of the Twelve Bridges development, near the easterly edge of the City of Lincoln city limits. The majority of the PCWA water deliveries to the City of Lincoln are stored in City owned storage tanks and then passed into the City's distribution system via gravity feed by a series of 16- to 30-inch diameter water pipelines. In addition to the 5 mg tank, the City operates two additional tanks (one at 1.5 mg and the second at 3 mg) for a total of 9.5 mg of potable water storage.

The City of Lincoln has a Water System Plan based on a City-wide model that is intended to ensure that adequate pressures and delivery are provided to the Plan Area without adversely affecting the existing conveyance and storage system. The proposed project water delivery system was designed in accordance with the criteria specified by the General Plan Water System Constraint Analysis as shown in Table 4 of the V5SP Water Master Plan.³³ The proposed water delivery system was designed to integrate with existing transmission mains and complete a looped connection through the Plan Area (see Figure 2-8 in Chapter 2, Project Description). Two points of connection (POC) would provide potable water to the Plan Area: connection to an existing 12-inch main at Nicolaus Road and Nelson Lane at the northeastern corner of the project site; and connection to an 18-inch transmission main at Moore Road and Nelson Lane in the southeast corner. The Water Master Plan also proposes the installation of six wells to provide groundwater to the Plan Area and construction of approximately 10 mg of above-ground water storage to provide for an emergency supply of potable water. The preliminary locations of the

³³ Cunningham Engineering, 2016. Water Master Plan for Village 5 Specific Plan: City of Lincoln, CA. May 19, 2016. Appendix C of the Lincoln Village 5 Specific Plan.

proposed wells and tank are also shown in Figure 2-8. The number and size of storage tank(s) are not known currently, and would be determined based on the timing and progression of the development.

Reclaimed Water Infrastructure

Proposed project water demand would also be met by using reclaimed water from the WWTRF, which would be delivered via an existing 42-inch low pressure pipe at a POC in the vicinity of Moore and Fiddymment Road (see Figure 2-8 in Chapter 2, Project Description). The distribution system for the proposed project would include dedicated reclaimed water lines located within major roads, backflow prevention devices and cross-connection controls. The system would be tested by the City annually to prevent cross-contamination or connections with the potable water supply. Deployment of reclaimed water in support of the project would not require, but could include installation of one or more new reclaimed water storage ponds to support system optimization. Ponds would be sized as needed to optimize pump and pipe sizing within the Plan Area. Alternatively, based on an analysis completed in support of the Reclaimed Water Master Plan, the storage volume (1.8 mg) required for daily reclaimed water management could occur within the existing WWTRF ponds. Either way, reclaimed water demand associated with buildout of the proposed project would not require additional improvements to the City reclaimed water system.

A booster pump would be constructed adjacent to the POC to provide the required flow and pressure to serve the proposed project. The Peak Hour Flow condition for buildout of the proposed project would be 6,809 gallons per minute (gpm) as shown in Table 4 of the Village 5 Reclaimed Water Master Plan.³⁴ This includes a 10 percent increase in peak hour flow for the unaccounted for water factor. Calculations are based on a pumping station capable of providing a flow of 3,400 gpm at 100 pounds per square inch (psi). During peak hour conditions it is assumed that not more than half of the demand would be required at one time. While it is likely that there would be more than two irrigation zones within each land use, the assumption of half the peak demand being applied at one time provides a conservative estimate for the distribution system. It is expected that the pump size would be refined after the actual number of irrigation zones is further defined.

The proposed project reclaimed water system would also require storage to ensure reclaimed water supply is available and provide redundancy in the system during the summer peak irrigation months. As of the publication date of this Draft EIR, it has not been confirmed whether the existing storage at the WWTRF can be used to store reclaimed water from the Plan Area. Based on the demand versus supply during peak weeks, storage equal to the peak day demand, 1.7 mg, should be provided. As identified in General Plan Water System Constraint Analysis, Appendix G of the Village 5 Reclaimed Water Master Plan,³⁵ effluent discharge to Auburn Ravine is

³⁴ Cunningham Engineering, 2016. Reclaimed Water Master Plan for Village 5 Specific Plan: City of Lincoln, CA. May 19. Appendix D of the Lincoln Village 5 Specific Plan.

³⁵ Ibid.

limited by the National Pollutant Discharge Elimination System (NPDES) permit temperature limitations. During certain times of the year, the effluent temperature is significantly warmer than the creek, and discharge is prohibited. During this time, effluent storage or reclamation is required. The existing effluent storage basins have a planned capacity of 500 mg. The current Village 5 Reclaimed Water Master Plan assumes that this storage could be utilized by the project. However, if it is determined that storage of reclaimed water to support the proposed project at the WWTRF is not feasible, a 1.7 mg storage facility would be constructed adjacent to the proposed pump station at the southwest corner of the intersection of Moore Road and Nelson Lane, as part of the proposed project. Updates to the WWTRF have been previously considered for environmental review under a previous EIR for the City of Lincoln Wastewater Treatment and Reclamation Facility (SCH # 98122071), which is hereby incorporated by reference.

Full Specific Plan

As presented in the Water Master Plan, PCWA has stated that there is 3.9 mgd of unallocated treatment capacity for potable water in the Foothill and Sunset WTPs available on a first come first serve basis, whereas the City maintains 3.3 mgd of capacity within its system (total of 7.2 mgd available water supply).³⁶ At buildout, the proposed project would require approximately 9.8 mgd of treatment capacity which would exceed the available treatment capacity in the system; therefore, additional treatment capacity would be needed. PCWA has planned, but not constructed the new Ophir WTP which would provide an additional 30 mgd of treatment capacity that could be expanded to treat up to 120 mgd of water. As previously noted the Ophir Road Pipeline project was completed in 2014 and included the construction of the first segment of the 60-inch diameter transmission main for the future Ophir WTP. Work also included improvements at the Ophir Road Pump Station and at two locations on Dutch Ravine. With completion of the Ophir Road Pipeline project, there would be adequate capacity in the system to convey water to the future Ophir WTP by PCWA. The impacts of constructing and operating the Ophir WTP and pipeline were evaluated in the Foothill Phase II WTP and Pipeline Project EIR (Foothill EIR).³⁷ The Foothill EIR is hereby incorporated by reference, and summarized as follows:

- (1) Air Quality impacts including construction period emissions (mitigable with deployment of measures to control NO_x, ROG, CO, and dust).
- (2) Biological resources impacts associated with fill of wetlands (less than significant with mitigation and avoidance measures); loss of oak woodlands including oak and other native trees (less than significant with avoidance measures and compensation for unavoidable impacts to native trees); loss of riparian habitat (less than significant with avoidance and compensation measures); impacts to valley elderberry longhorn beetles or their habitat (less than significant with avoidance and minimization measures for

³⁶ Cunningham Engineering, 2016. Water Master Plan for the Village 5 Specific Plan: City of Lincoln, CA. May 19. Appendix C of the Lincoln Village 5 Specific Plan.

³⁷ Placer County Water Agency, 2005. Foothill Phase II Water Treatment Plant and Pipeline Environmental Impact Report. SCH No. 2004102002. Prepared by Environmental Science Associates. April 2005.

elderberry shrubs, and compensation for unavoidable impacts); impacts to red legged frog and Western pond turtle, (less than significant with minimization and avoidance measures); impacts to nesting and special status birds and raptors (less than significant with preconstruction surveys, buffers, and other avoidance and minimization measures); impacts to anadromous fish (less than significant with limitations on construction and restoration).

- (3) Cultural resources impacts associated with potential damage to historically significant elements (less than significant with incorporation of preservation and maintenance measures); potential damage to previously unidentified buried archaeological and/or human remains (less than significant with measures that address the unanticipated discovery of cultural resources).
- (4) Geology and soils impacts associated with erosion of soils (less than significant with implementation of grading and erosion control plan and deployment of BMPs); and from corrosive or expansive soils (less than significant with implementation of a geotechnical report and site specific geotechnical design criteria).
- (5) Hazardous materials and public health impacts associated with potential for exposure to contamination (less than significant with implementation of construction period measures to minimize and manage exposure); and hazardous materials spills during construction (less than significant with implementation of measures to minimize and clean up construction period spills).
- (6) Hydrology and water quality impacts associated with construction activities (mitigable with implementation of a grading and erosion control plan, sediment management actions, BMPs, good housekeeping, revegetation, SWPPP implementation, and hazardous substance spill management); operations period water quality effects (mitigable with implementation of BMPs); dewatering related impacts (mitigable with measures to minimize shallow groundwater degradation); impacts to drainage crossings during construction (mitigable with implementation of PCWA standard pipeline design criteria)
- (7) Noise impacts associated with construction (less than significant with implementation of construction period noise reduction measures); construction related blasting impacts (less than significant with incorporation of a blasting plan); and operation period noise (less than significant with implementation of noise-reducing design features).
- (8) Public services and utilities impacts associated with disruption to utility services (mitigable with implementation of utility avoidance measures); and temporary interference with emergency service access (less than significant with implementation of a construction management plan).

- (9) Transportation and Circulation impacts including short term increases in construction period trips (mitigable with implementation of a construction management plan); impacts related to roadway safety hazards, constrained access, and potential roadway surface damage (mitigable with implementation of a construction management plan).
- (10) Visual resources impacts relating to visual quality (less than significant with measures to minimize light spill, adherence to design guidelines, and landscaping specifications); and light and glare (less than significant with minimization of light spill).

Over the past two decades, PCWA and the City have been constructing new facilities, including water distribution pipelines and storage tanks, in order to increase the volume of treated surface water that PCWA can provide to the City to meet anticipated future demands. These new facilities are collectively known as the Penryn-Lincoln Pipeline. The City anticipates installing Phase 3 of the Penryn-Lincoln Pipeline (Phase 3 Pipeline and Metering Station project) by the summer of 2017. The Phase 3 Pipeline includes a 6,000-foot-long 30-inch diameter water transmission pipeline that would connect to a future 10 mg storage tank and would be designed to accommodate the future Bickford Ranch water transmission line. The Phase 3 Pipeline would be needed to ensure deliveries of PCWA treated water could be made in future years. Because this Phase 3 Pipeline project is fully funded by the City, with completion of design in summer, 2016 and completion of construction is expected in 2017, it is assumed that this pipeline would be in place and operational to before buildout of the proposed project (2040) and adequate delivery capacity of PCWA water to the City would be available.

As shown in Figure 2-8 in Chapter 2, Project Description, the proposed water delivery system for the proposed project includes two POCs to the City's existing potable water transmission mains. Fire flow tests were performed by the City to establish available flow and pressure conditions at these POCs. The results are presented in **Table 3.16-7**.

**TABLE 3.16-7.
FIRE FLOW TESTS**

Test 1 – Aviation Drive, 500ft North of Nicolaus Road	
Static	0 gpm @ 102 psi
Residual	1,236 gpm @ 91 psi
Projected	3,219 gpm @ 20 psi
Test 2 – Moore Rd at Intersection of Nelson Lane	
Static	0 gpm @ 103 psi
Residual	1,320 gpm @ 96 psi
Projected	4,416 gpm @ 20 psi

Source: Cunningham Engineering, 2016. Water Master Plan for Village 5 Specific Plan: City of Lincoln, CA. May 19, 2016. Appendix C of the Lincoln Village 5 Specific Plan, page C-2.

The existing POC would have adequate capacity and pressure to supply potable water to Area A (see discussion below under Area A). According to the results of the City's hydraulic water modeling, these two POCs could also serve buildout of Area B. However, at buildout of the entire Plan Area, the model shows that there would be insufficient flow and pressure available at the existing POC to serve the proposed project. To provide adequate capacity and pressure beyond buildout of Areas A and B, the remaining development areas would need to connect to a new third POC to the future Village 7 18-inch transmission main (see Figure 2-8 in Chapter 2, Project Description). As noted above, approximately 10 million gallons of storage would be required to provide for an emergency supply of potable water. The number and size of storage tank(s) would be determined based on the timing and progression of the development.

As noted above reclaimed water demand associated with buildout of the proposed project would require new pipelines and potentially reclaimed water storage infrastructure; nevertheless, none of these improvements would have a significant impact as the pipelines would be laid in major roadways and within the Plan Area, and would not trigger further need for improvements to the existing City reclaimed water system. However, the existing surface water treatment capacity is not adequate to serve the Plan Area at buildout without the construction and operational of PCWA's proposed Ophir WTP. The installation of a new POC to the future Village 7 transmission main is also needed to provide for adequate conveyance capacity and pressure; therefore, this is considered a **significant impact**.

Area A

As noted above, PCWA has stated that there is 5.6 mgd of unallocated capacity in the Foothill and Sunset WTPs available on a first come first serve basis. Buildout of Area A would require approximately 3 mgd of treatment capacity which would not exceed the available treatment capacity in the system; therefore, no additional treatment capacity would be needed. In addition, because completion of the Phase 3 Pipeline is expected in 2017 (it is currently fully funded and under design), it is assumed that this pipeline would be in place and operational to before buildout of Area A is complete in 2020 and adequate delivery capacity of PCWA water to the City would be available.

The result of the flow test of the City's existing two transmission mains and hydraulic modeling done for Area A potable water infrastructure demonstrated that there is currently sufficient flow and pressure available to serve Area A without adversely affecting the existing City system. As shown in the Water Master Plan,³⁸ during Maximum Day Demands and Fire Flow conditions the residual pressure within the Area A development would remain above 20 psi. A minimum of 3 million gallons of potable water storage for emergency purposes would be constructed to serve Area A. Reclaimed water pipelines and other infrastructure to support Area A would be installed during the construction period for Area A.

³⁸ Cunningham Engineering, 2016. Water Master Plan for Village 5 Specific Plan: City of Lincoln, CA. May 19, 2016. Appendix C of the Lincoln Village 5 Specific Plan. p. C-9.

Since Area A is isolated at the end of the City's system and there is looping for redundancy and support, water pressure would be expected to be maintained at or above City requirements and no new or expanded water conveyance infrastructure would be required. Therefore, this is considered a **less-than-significant impact**.

Mitigation Measures

Mitigation Measure 3.16-2 (Full Specific Plan)

Prior to the approval of the Ophir WTP or Foothill Phase II WTP connection to the City's water system or demand of 1.7 gpm within the Plan Area, whichever occurs first, the City shall ensure the following improvements or equally effective improvements for treatment and distribution have been completed and are operational:

- a) *The Ophir Water Treatment Plant is completed and operational at 10 mgd.*
- b) *The Village 7 18-inch transmission main is installed and connected to a third POC provided in the Plan Area.*

Impact Significance after Mitigation: With the implementation of Mitigation Measure 3.16-2, adequate water supply treatment and conveyance capacity would be available to serve buildout of the proposed project and this impact would be reduced to **less than significant**. Completion and operation of the First Phase of Ophir WTP prior to buildout would provide for an additional 1.8 mgd (or more) available to serve the proposed project. As described in the Water Master Plan, the flow test conducted at the existing POC of 2,556 gpm, combined with the modeled future Village 7 transmission main of 5,869 gpm, would produce a total of 8,425 gpm of recycled wastewater under normal operating conditions. As shown in the Water Master Plan,³⁹ during Maximum Day Demands and Fire Flow conditions the residual pressure at buildout would remain above 20 psi. Since the Plan Area is isolated at the end of the City's system, the pressures within the City which have additional looping for redundancy and supply are expected to be maintained at or above City requirements.

Construction of the infrastructure improvements identified in Mitigation Measure 3.16-2 would result in ground disturbance, which could create short-term construction-related impacts such as air emissions and noise from equipment use similar to those evaluated in the technical sections of this EIR. Pipelines would be installed underground in or adjacent to existing roadways and would not result in long-term environmental impacts. The impacts of constructing and operating the Ophir WTP and pipeline were evaluated in the Foothill Phase II WTP and Pipeline Project EIR (State Clearinghouse No. 2004102002), which is incorporated by reference, studied impacts to biological resources, cultural resources, noise, air quality, and visual resources. Short-term

³⁹ Ibid.

significant and unavoidable impacts were identified for construction air emissions even with implementation of applicable emission control measures.

3.16.2 Wastewater and Reclaimed Water

Environmental Setting

Wastewater Collection

The Lincoln Public Services Department, Wastewater Division manages a myriad of lift stations and trunk sewer lines that convey wastewater to the WWTRF. Within the Plan Area, there is currently a 54-inch diameter sewer line that is stubbed to the north of the WWTRF, but no wastewater infrastructure currently exists anywhere in the Plan Area. Existing rural residential dwellings are on septic, and will have the choice of either remaining on septic systems (no change to existing conditions) or connecting into the proposed sewer infrastructure once annexed into the City limits.

Wastewater Treatment

The Wastewater Division of the City of Lincoln Public Services Department provides the City of Lincoln with wastewater collection and treatment. The WWTRF is located at 1245 Fiddymont Road, south of the Plan Area. The WWTRF has been in operation since July 2004,⁴⁰ and currently contains an influent pump station, hard works screening and flow measurement, oxidation ditches, secondary clarifiers, maturation ponds, filtration facilities, dissolved air flotation separators, ultraviolet (UV) light disinfection facilities, solids handling facilities, effluent re-aeration and pumping, a pipeline to an outfall in Auburn Ravine, effluent and emergency storage, and several land disposal fields.⁴¹

According to the Wastewater Master Plan for the proposed project, the WWTRF currently has approximately 1.4 mgd of remaining unallocated capacity, but was designed to have the capacity to expand for future development to accommodate up to 24 mgd (based on average dry weather flow).⁴²

Reclaimed Water

The City of Lincoln WWTRF also treats and generates reclaimed water for the City, and possesses the capability to produce reclaimed water that meets Title 22 DHS standards for unrestricted use. According to the Reclaimed Water Master Plan for the proposed project, the WWTRF is projected to produce as much as 7,779 AF of reclaimed water for City reuse. Although potential reclaimed water supply at the WWTRF would be dictated by the capacity of

⁴⁰ Cunningham Engineering, 2015. Wastewater Master Plan for Village 5 Specific Plan: City of Lincoln, CA. p. 4. October 9.

⁴¹ City of Lincoln, 2012. Draft Environmental Impact Report for the Village 1 Specific Plan (State Clearinghouse No. 2010102018). p. 4.13-33. May 2012.

⁴² Cunningham Engineering, 2015. Wastewater Master Plan for Village 5 Specific Plan: City of Lincoln, CA. p. 4. October 9, 2015.

the plant, treated water demand and generated wastewater would ultimately determine the actual quantity of reusable water post-treatment. Since the City of Lincoln has not yet determined whether it would partner with Placer County or the City of Auburn, the reclaimed water analysis found within the WSA assumes that the WWTRF would only treat water for distribution to serve customers located in the City Lincoln's service area.⁴³

The City has identified three types of reclaimed water uses: agricultural irrigation (crop irrigation), landscape irrigation (landscaping for highways and roads, parks, and golf courses), and industrial/commercial uses (cooling, washing, and various process uses).⁴⁴

Currently, approximately 400 acres of land utilize reclaimed water from the WWTRF for agricultural purposes, and future uses of reclaimed water in Lincoln are anticipated to increase up to 6,822 AFY upon the City's 2050 buildout horizon.⁴⁵

Regulatory Setting

Federal

Federal Antidegradation Policy

The federal antidegradation policy, established in 1968, is designed to protect existing uses and water quality and national water resources. The federal policy directs states to adopt a statewide policy that includes the following primary provisions:

- Existing instream uses and the water quality necessary to protect those uses shall be maintained and protected.
- Where existing water quality is better than necessary to support fishing and swimming conditions, that quality shall be maintained and protected unless the state finds that allowing lower water quality is necessary for important local economic or social development.
- Where high-quality waters constitute an outstanding national resource, such as waters of national and state parks, wildlife refuges, and waters of exceptional recreational or ecological significance, that water quality shall be maintained and protected.

Clean Water Act Section 402

Section 402 of the Clean Water Act provides the US Environmental Protection Agency (USEPA) the authority to implement the NPDES, which provides for issuance of permits to discharge into navigable waters under federal jurisdiction. The law permits individual states to administer their own permit programs for discharges into navigable waters. California administers its own NPDES program; for additional discussion, please refer to the state level regulations identified below.

⁴³ Tully & Young, 2015. Village 5/SUD-B: SB 610 Water Supply Assessment—Prepared for the City of Lincoln. Final Draft. June 2015. p. 4-11.

⁴⁴ Ibid., p. 4-12.

⁴⁵ Ibid.

State

State Water Resources Control Board

The SWRC Board and nine Regional Water Quality Control Boards (Regional Boards) (collectively, Water Boards) draw authority for stormwater regulation from the federal Water Pollution Control Act (33 U.S.C. Section 1301) (Clean Water Act or CWA) and from direction within the Clean Water Act which puts the framework for regulating stormwater discharges under the NPDES Permit system.

The State Water Board has adopted four Storm Water General Permits, which include a Caltrans General Permit (2012-0011-DWQ), a Construction General Permit (2009-0009-DWQ), an Industrial General Permit (2014-0057-DWQ), and a Phase II Small MS4 General Permit (2013-0001-DWQ). The nine Regional Board's enforce the general permit requirements within their individual jurisdictions. The Construction General Permit and the Phase II Permit are applicable to this project. The City lies within the Central Valley Regional Board's jurisdiction.

Central Valley Regional Water Quality Control Board

As authorized by the Porter-Cologne Water Quality Control Act, the Central Valley Regional Water Quality Control Board (Central Valley Regional Board formerly known as the Central Valley RWQCB) primary function is to protect the quality of the waters within its jurisdiction, including the Plan Area, for all beneficial uses. State law defines beneficial uses of California's waters that may be protected against quality degradation to include, but not be limited to: domestic; municipal; agricultural and industrial supply; power generation; recreation; aesthetic enjoyment; navigation; and preservation and enhancement of fish, wildlife, and other aquatic resources or preserves. The Central Valley Regional Water Board implements water quality protection measures by implementing the NPDES permitting process, for facilities and processes that discharge to surface water, including wastewater treatment facilities.

California State Antidegradation Policy

In 1968, the State Water Board adopted its antidegradation policy (Policy 68-16) aimed at maintaining high quality for waters in California. Modeled after the federal antidegradation policy, California's antidegradation policy states that the disposal of wastes into state waters shall be regulated to achieve the highest water quality consistent with maximum benefit to the people of the state and to promote the peace, health, safety, and welfare of the people of the state. The policy provides as follows:

1. Where the existing quality of water is better than required under existing water quality control plans, such quality would be maintained until it has been demonstrated that any change would be consistent with maximum benefit to the people of the State and would not unreasonably affect present and anticipated beneficial uses of such water.
2. Any activity which produces waste or increases the volume or concentration of waste and which discharges to existing high-quality waters would be required to meet waste discharge requirements which would ensure (1) pollution or nuisance would not occur and (2) the

highest water quality consistent with the maximum benefit to the people of the State would be maintained.

California Code of Regulations Title 22

Title 22 of the California Code of Regulations (CCR) provides requirements for the provision of recycled water by municipal utilities, including requirements for minimization of hazardous contaminants within the recycled water, and various operational and monitoring criteria. These regulations also provide limitations for the usage of recycled water. Specifically, recycled water treated to a specified level may be used for groundwater recharge; irrigation of food crops; irrigation of landscaping including parks, playgrounds, school yards, residential landscaping, freeway landscaping, golf courses, and other municipal irrigation uses; industrial uses such as cooling towers, toilet flushing, urinals, industrial process water, soil compaction, mixing of concrete, and the flushing of sanitary sewers.

State Water Resources Control Board Recycled Water Policy

The State Water Board's Recycled Water Policy was adopted in 2009 and amended in 2013. The purpose of the policy is to increase the use of recycled water from municipal wastewater sources, in a manner that implements relevant water quality laws. The State Water Board adopted the policy in the wake of several California water supply and water quality issues, including changes in the Sacramento-San Joaquin Delta, climate change, continued population growth, and recent droughts. The policy adopts the following goals with reference to recycled water:

- Increase the use of recycled water over 2002 levels by at least one million acre-feet per year (AFY) by 2020 and by at least two million AFY by 2030.
- Increase the use of stormwater over use in 2007 by at least 500,000 AFY by 2020 and by at least one million AFY by 2030.
- Increase the amount of water conserved in urban and industrial uses by comparison to 2007 by at least 20 percent by 2020.
- Included in these goals is the substitution of as much recycled water for potable water as possible by 2030.

The 2013 amendment added monitoring for water quality constituents of emerging concern (CECs) and their surrogates in recycled water used for groundwater recharge, and proposed a reduction of priority pollutant monitoring of recycled water used for landscape irrigation.

NPDES General Permit for Landscape Irrigation Uses of Municipal Recycled Water

In July 2009, the State Water Board adopted General Waste Discharge Requirements for Landscape Irrigation Uses of Municipal Recycled Water (General Permit; WQO 2009-0006-DWQ). For those eligible, the General Permit allows the use of recycled water for landscape irrigation. Landscaped areas which may receive tertiary-treated recycled water include: parks, greenbelts, and playgrounds, school yards, athletic fields, golf courses, cemeteries, residential landscaping, common areas, commercial landscaping except eating areas, industrial landscaping

except eating areas, and freeway, highway, and street landscaping. An applicant may apply for coverage under the General Permit by filing a Notice of Intent, providing a complete Operation and Maintenance Plan, and submitting the appropriate fee to the State Water Resources Control Board. The City is not currently covered under the General Permit but could apply for coverage under the statewide permit to support future planned reclaimed water uses. The City currently maintains Master Reclamation Permit No. R5-2005-0040 to support these uses.

Local

City of Lincoln 2050 General Plan

The following goals and policies from the 2050 General Plan are relevant to utilities and infrastructure.

Goal PFS-3 **Ensure provision of adequate sanitary sewers and wastewater treatment capacity to accommodate existing and future development in order to protect public health and safety.**

Policies

PFS-3.10 **Sewer Lines for New Development.** The City shall require new development to be responsible for construction of all sanitary sewer lines serving such development. Provision will be made allowing reimbursement from Third Parties, or credits against City wastewater fees (as approved by the Director of Public Works) should such lines result in an “over-sizing” for a particular development.

PFS-3.13 **Provisions of Buffers for Wastewater Treatment Facility.** The City shall continue to promote the provision of adequate buffers for the City’s regional wastewater facility, in order to prevent the encroachment of incompatible land uses, which could affect its long-term operations. The relationship of these 2050 General Plan policies to the V5SP is included in Chapter 5.

Analysis, Impacts, and Mitigation

Significance Criteria

In accordance with Appendix G of the CEQA Statute and Guidelines, a project would have a significant effect if it would:

- Increase the demand for wastewater management to the extent that new or expanded facilities would be required for wastewater treatment, storage, and distribution facilities, reclaimed water infrastructure, or wastewater collection, treatment, or disposal capacities;
- Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board.

Methods and Assumptions

Impacts relating to wastewater demand were identified based on an evaluation of existing wastewater treatment capacity and infrastructure available to the City, in comparison to conditions with implementation of the project, in light of existing as well as planned infrastructure.

Impacts and Mitigation Measures

Impact 3.16-3: Implementation of the proposed project would generate additional wastewater flows, which could exceed applicable treatment requirements or result in the expansion or construction of new facilities, which could cause significant environmental effects.

Full Specific Plan

The proposed project would generate an estimated 3.9 mgd of wastewater during periods of average dry weather flow (ADWF) under full project buildout, as shown in **Table 3.16-8**.

**TABLE 3.16-8.
PROJECT WASTEWATER GENERATION RATES, BY PLAN AREA**

Plan Area	Area (acres)	Average Dry Weather Flow (gpd)
Area A	651.7	1,041,600
Area B	189.2	275,800
Area C	52.0	300,400
Area D	132.3	16,600
Area E	148.3	490,900
Area F	349.7	668,000
Area G	20.0	25,000
Area H	425.2	362,700
Area I	345.8	616,500
Area J	450.1	56,300
Total	2,764.3	3,853,800

Source: Cunningham Engineering, 2015. Wastewater Master Plan for Village 5 Specific Plan: City of Lincoln, CA. October 9, 2015. Table 5.

The existing WWTRF currently has an ADWF capacity (and permitted limit) of 5.9 mgd. Capacity is not currently available to support the proposed project. Nonetheless, future expansions of the WWTRF are planned, with mechanisms to collect funding for the proposed expansions already in place (developer fees and existing fee structure will fund the expansion). Of this amount, there remains approximately 1.4 mgd of unallocated capacity, which would be allocated to the proposed project.⁴⁶ This treatment capacity volume would be sufficient to manage wastewater flows from Area A (1.04 mgd), leaving 0.36 mgd remaining for Areas B-J. Therefore, there would be a remaining wastewater treatment demand of 2.45 mgd at full V5SP buildout.⁴⁷ The City's June, 1998 Wastewater Management Plan identifies an ultimate buildout capacity for the WWTRF of 10 to 12 mgd (Lincoln, 1998). In 2000, the City certified an EIR (SCH # 98122071) that evaluated expansion of the WWTRF up to an ADWF capacity of 12 mgd,

⁴⁶ Cunningham Engineering, 2015. Wastewater Master Plan for Village 5 Specific Plan: City of Lincoln, CA. p. 4. October 9, 2015.

⁴⁷ Ibid.

where the WWTRF would be expanded incrementally as demand within the City increased up to buildout capacity.

The proposed project's residual wastewater demand at full buildout would be within the total wastewater treatment capacity volume that was analyzed and approved under the 2000 EIR. Therefore, it is anticipated that the City would expand WWTRF capacity concurrently with development of the proposed project, where the City will continue its existing practice of carefully monitoring and aggressively planning for near term expansions based on observed and anticipated growth rates and drivers. Impacts associated with expansion of the wastewater treatment plant to 12.0 mgd were analyzed in the 2000 EIR. Significant unavoidable impacts included potential loss or adverse modification of wetland habitats, potential loss of special-status species including vernal pool fairy shrimp and various plant species, generation of odors, and permanent conversion of prime farmland and loss of prime soils. The City certified the EIR, adopted findings and a statement of overriding conditions, and approved the WWTRF expansion in January 2000.⁴⁸ Therefore, sufficient wastewater capacity would be available to serve proposed project. The anticipated WWTRF expansion would be required to adhere to state and federal antidegradation requirements, as well as applicable discharge permits. Adherence to permit conditions would be required under state and federal law. Furthermore, potential impacts surrounding compliance with applicable discharge regulations were previously analyzed under the 2010 EIR. The project would not generate wastewater requiring treatment or facility expansion beyond that considered in the 2010 EIR, and therefore would not result in exceedance of applicable wastewater treatment requirements.

For reclaimed water needs, the proposed project anticipates up to 802 AFY in demand upon full buildout, including 274 AFY for community/neighborhood parks (VPARK), 222 AFY for regional parks, 73 AFY for linear parks (VLP), and 233 for rights of way (ROW). In comparison, the WWTRF is projected to increase its reclaimed water production to 7,779 AFY. Thus, the reclaimed water demand of the proposed project would not exceed the capabilities of the WWTRF. The project applicants would accordingly be required to pay the applicable assessment fees to contribute to the operation and maintenance of the WWTRF.

With respect to infrastructure, the City would connect to an existing 54-inch diameter stub to integrate the proposed project's sewer system with the City's system and the WWTRF.⁴⁹ The connection would be made via a proposed gravity flow system, which would be installed under Auburn Ravine, to connect to the WWTRF. This increase in pipeline diameter has been designed to be of sufficient size to manage the proposed project's flows, as well as flows from offsite developments, which would need to be conveyed through the Plan Area. For details regarding

⁴⁸ Jones and Stokes Associates, Inc., 2000. Addendum Environmental Impact Report, City of Lincoln Wastewater Treatment and Reclamation Facility. December 2000.

⁴⁹ Cunningham Engineering, 2015. Wastewater Master Plan for Village 5 Specific Plan: City of Lincoln, CA. p. 4. October 9, 2015.

infrastructure needed to support these projects, please refer to the Wastewater Master Plan.⁵⁰ Within the Plan Area, the proposed backbone sewer system would be comprised of mostly 18-inch or smaller sewer piping, which would collect into 24-inch interconnections, eventually connecting to 36-, 42-, and 54-inch trunk mains. All pipelines were designed to flow at or below 70 percent full, in accordance with City guidelines. Separate recycled water distribution lines and booster pumps (as needed to maintain pressure) would also be installed within the Plan Area as an element of the project, and would be sized appropriately for the proposed use, in adherence to City standards and requirements. Based on the findings and designs provided in the Wastewater Master Plan,⁵¹ these proposed facilities are expected to be appropriately sized to manage expected flows without need for further, unplanned updates to downstream infrastructure. Potential impacts of pipeline installation on other environmental resource areas are considered as part of the overall project, throughout the other chapters of this EIR, as applicable. Therefore, this impact is considered **less than significant**.

Area A

The proposed land uses in Area A would generate an estimated 1.04 mgd of wastewater during ADWF, as shown on Table 3.16-8. The existing WWTRF currently has an ADWF capacity (and permitted limit) of 4.2 mgd, and is currently in the process of being expanded to an ADWF capacity of 5.9 mgd. This expansion is expected to be completed in late 2018. Of this amount, there remains approximately 1.4 mgd of unallocated capacity, which would be allocated to the proposed project.⁵² As a result, the WWTRF would have sufficient capacity to treat the wastewater generated by the buildout of Area A. With respect to infrastructure, the proposed Auburn Ravine crossing, as well as the main wastewater trunkline proposed for the project would be installed as an element of Area A. Distribution lines would be installed in Area A, just as they would be under full buildout, but would not be installed in other areas. Based on the findings and designs provided in the Wastewater Master Plan and the Reclaimed Water Master Plan,⁵³ which identify pipeline sizing based on the City's standard sizing estimation/requirements, this impact is considered **less than significant**. Potential impacts of pipeline installation on other environmental resource areas are considered as part of the overall project, throughout other chapters of the EIR, as applicable.

Mitigation Measures

None required.

⁵⁰ Ibid.

⁵¹ Ibid.

⁵² Ibid.

⁵³ Cunningham Engineering, 2015. Reclaimed Water Master Plan for Village 5 Specific Plan: City of Lincoln, CA. May 19, 2015. Appendix D of the Lincoln Village 5 Specific Plan.

3.16.3 Stormwater

Environmental Setting

As discussed in Section 3.10, Hydrology, Drainage, and Water Quality, the topography of the Plan Area is largely east to west, with Auburn Ravine in the south of the Plan Area and Markham Ravine largely in the north. The Plan Area largely consists of undeveloped agricultural land with few roads and a limited drainage system. Roughly two percent of the Plan Area currently contains impervious surfaces.⁵⁴ Topography within the Plan Area and vicinity is generally flat, and existing soils on site carry low infiltration potential. Existing storm water infrastructure located on site is limited to agricultural drainages.

Regulatory Setting

Federal

National Pollutant Discharge Elimination System Permits

The NPDES permit system was made through the federal Clean Water Act (CWA) to regulate industrial and municipal discharges to surface waters within the United States. Each NPDES permit contains allowable concentrations limits and mass emissions limits for pollutants found in the discharge. Sections 401 and 402 of the CWA provide general requirements regarding NPDES permits. Section 307 of the CWA specifies the factors that the EPA is required to recognize when preparing effluent limits for pollutants designated as priority. The Central Valley Regional Water Board sets standards for the effluent quality that can be discharged to waterways within the Sacramento area, through Waste Discharge Requirements (WDRs) that implement the NPDES permit. WDRs are updated a minimum of five years. New permits must be issued whenever a major change or expansion of a wastewater treatment facility occurs.

State

Construction General Permit

Projects that disturb one or more acres of soil or that disturb less than one acre but are part of a larger common plan of development, are required to obtain coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity. The permit is based on a project's overall risk and requires measures to prevent erosion and reduce sediment and other pollutants in their discharges. (State Water Board Order No. 2009-0009-DWQ was adopted in 2009 and became effective July 1, 2010).

The Construction General Permit requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP should contain a site map(s) which shows the construction site perimeter, existing and proposed buildings, lots, roadways, storm water collection and discharge points, general topography both before and after construction, and

⁵⁴ Cunningham Engineering, 2015. Drainage System and Flood Control System for Village 5 Specific Plan: City of Lincoln, CA. March 16, 2015. pp. 2-4.

drainage patterns across the project. The SWPPP must list Best Management Practices (BMPs) the discharger will use to protect storm water runoff and the placement of those BMPs. Additionally, the SWPPP must contain a visual monitoring program; a chemical monitoring program for “non-visible” pollutants to be implemented if there is a failure of BMPs; and a sediment monitoring plan if the site discharges directly to a water body listed on the 303(d) list for sediment. Section A of the Construction General Permit describes the elements that must be contained in a SWPPP. Coverage under the Construction General Permit is obtained by submitting (electronically) a Notice of Intent, along with the required paper work such as a Risk Assessment, Post-Construction Calculations, a Site Map, a SWPPP, a certification statement, and the annual fee to the requisite Regional Board.

Municipal Phase II Permit

Large and small municipal sewer system operators must comply with permits that regulate storm water entering their systems under a two phase system. Phase 1 regulates storm water permits for medium (serving between 100,000 and 250,000 people) and large (serving 250,000 people) municipalities. The second phase regulates smaller municipalities, including non-traditional small operations, such as military bases, public campuses, and prison and hospital complexes. (State Water Board Order No. 2013-0001 DWQ was adopted in February 2013 and became effective July 1, 2013) The Phase II Permit is applicable to the City of Lincoln because it is currently under 100,000 people.

The Municipal Storm Water Permitting Program regulates storm water discharges from municipal separate storm sewer systems (MS4s). Storm water is runoff from rain or snow melt that runs off surfaces such as rooftops, paved streets, highways or parking lots and can carry with it pollutants such as: oil, pesticides, herbicides, sediment, trash, bacteria and metals. The runoff can then drain directly into a local stream, lake or bay. Often, the runoff drains into storm drains which eventually drain untreated into a local waterbody.

Additionally, municipal or urban areas commonly include large impervious surfaces which contribute to an increase in runoff flow, velocity and volume. As a result, streams are hydrologically impacted through streambed and channel scouring, instream sedimentation and loss of aquatic and riparian habitat. In addition to hydrological impacts, large impervious surfaces contribute to greater pollutant loading, resulting in turbid water, nutrient enrichment, bacterial contamination, and increased temperature and trash.

Local

City of Lincoln 2050 General Plan

The following goals and policies from the 2050 General Plan are relevant to utilities and infrastructure.

Policies

- LU-15.15 **Joint Use of Detention Facilities.** Detention facilities can be utilized in meeting part of a village’s park requirements based on the usability of the basin for recreational purposes.

Goal PFS-4 To ensure provision and sizing of adequate storm drainage facilities to accommodate existing and planned development.

Policies

PFS-4.6 **Preproject Conditions.** The City will require new development to provide storm-water detention sufficient to limit outflow per Figure 7-1 of the City’s Stormwater Management Manual (February 1994), or as revised.

Master Drainage Plans shall be designed to require new development to provide, or contribute towards, stormwater detention to reduce postdevelopment peak flow from a 100 year event to pre-development flow rate less 10 percent of the difference between the estimated pre-development and the post-development unmitigated peak flow rates. The Master Drainage Plan shall identify appropriate locations to achieve such postdevelopment flows. This criterion is principally designed to address the 100-year event with appropriate consideration given for the feasibility of mitigating 2-year and 10-year events.

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

The relationship of these 2050 General Plan policies to the V5SP is included in Chapter 5.

Analysis, Impacts, and Mitigation

Significance Criteria

In accordance with Appendix G of the CEQA Statute and Guidelines, a project would have a significant effect if it would:

- Require or result in the construction of new storm water drainage facilities, or expansion of existing facilities, the construction of which could cause significant environmental effects.

Methods and Assumptions

The Plan Area does not currently contain curbs, gutters, storm drains, or any other urban drainage-related infrastructure. However, the project applicant has prepared a Stormwater Master Plan. As a result, impacts on storm water were evaluated based on the ability of proposed infrastructure to manage anticipated storm water flows of the proposed project.

Impacts and Mitigation Measures

Impact 3.16-4: The proposed project could generate additional runoff, thereby increasing storm water flows and exceeding the existing storm water and drainage capabilities, resulting in new and expanded facilities, the construction of which could cause significant environmental effects.

Full Specific Plan

The proposed project would result in the construction of buildings, roadways, and other impervious surfaces. Proposed improvements would result in a post-development ground surface cover of impervious surfaces that would range from approximately 15 percent in rural residential areas, up to approximately 90 percent impervious in commercial/business park areas. Overall, the

project would result in an estimated average of 38 percent impervious surfaces for all proposed developed areas. Thus the net increase in impervious surface area would be increased from approximately 56 acres (2 percent) of the Plan Area under existing conditions, to 1,072 acres (38 percent) upon project buildout. While existing soils have limited permeability, this increase in impervious surfaces would still be expected to substantially increase net stormwater and runoff generated on site.

The project incorporates several design features aimed at managing onsite runoff and reducing the post-project storm water flows off site, particularly downstream. These improvements would include installation of storm water drainage infrastructure, including new above-ground and below-ground/pipeline storm water conveyances, 21 new drainage detention basins, and new outfalls that would discharge to adjacent natural waterways.⁵⁵ The impact of constructing these stormwater drainage infrastructure improvements were analyzed in previous sections of Chapter 3, including Section 3.3 (Air Quality), Section 3.4 (Biological Resources), Section 3.7 (Energy Resources), Section 3.10 (Hydrology, Drainage and Water Quality), and Section 3.12 (Noise). Stormwater from the Plan Area would drain exclusively to Auburn Ravine or Markham Ravine, and would not be piped into existing City storm water management infrastructure.

As discussed in greater detail in Section 3.10, Hydrology, Drainage, and Water Quality, the proposed drainage basins would be sized to effectively manage events ranging from the 2-year/24-hour storm to the 100-year/24-hour storm. As a result, the proposed storm water infrastructure would be sufficient to manage storm flows created by the project, and would not create any new or different impacts than have already been analyzed in previous sections. Therefore, this impact would be considered **less than significant**. For a discussion of impacts associated with the physical effects of changes in storm water volume in downstream areas, please refer to Section 3.10, Hydrology, Drainage, and Water Quality.

Area A

Completion of only Area A would result in installation of storm water infrastructure (storm sewers, drainages, outfalls, detention basins, etc.) associated only with Area A. Storm water conveyance infrastructure would include those segments shown on Figure 2-11 (in Chapter 2, Project Description) that would be located within Area A, but would not include deployment of proposed infrastructure located outside of Area A. Development in Area A would drain to both Auburn Ravine and Markham Ravine, and would include areas that flank these two waterways. Therefore, storm water drainage facilities, including conveyance and detention basins, could be installed to release flows into these areas. The impacts of installing these infrastructure improvements in Area A were analyzed in previous sections of Chapter 3, including Section 3.3 (Air Quality), Section 3.4 (Biological Resources), Section 3.7 (Energy Resources), Section 3.10 (Hydrology, Drainage and Water Quality), and Section 3.12 (Noise). As discussed in greater detail in Section 3.10, Hydrology, Drainage, and Water Quality, the proposed storm water

⁵⁵ Cunningham Engineering, 2016. Stormwater Master Plan, May 19, 2016. Fig. 4.

infrastructure would be sufficiently sized to manage anticipated storm water flows from the project. All discharge would be to Markham and Auburn Ravines, and no additional interconnection with City storm water infrastructure would be required in order to adequately manage flows. Therefore, this impact is considered **less than significant** for Area A. For a discussion of impacts associated with the physical effects of managing storm water, please refer to Section 3.10, Hydrology, Drainage, and Water Quality.

3.16.4 Solid Waste

Environmental Setting

The City of Lincoln is the provider of solid waste collection and disposal throughout the City. Typically, 96 gallon waste receptacles⁵⁶ are collected on the curb and transported to the Western Regional Sanitary Landfill (WRSL), a 320-acre site which is run by the Western Placer Waste Management Authority (WPWMA). This landfill is located at 3033 Fiddymont Road, west of SR 65, approximately 1.6 miles south of the project site, between the cities of Lincoln and Roseville. The WRSL contains a Material Recovery Facility (MRF), at which a variety of materials are recycled, including but not limited to wood and greenwaste for compost and woodchip processing, metal, plastic, glass, and paper.⁵⁷

Currently, the landfill has a permitted acreage of 281 acres,⁵⁸ and the MRF has a permitted acreage of 27.2 acres for recycling/large volume transfer and 12.7 acres for composting.⁵⁹ As a regional agency, WPWMA, a joint powers authority, comprises the cities of Lincoln, Rocklin, and Roseville and Placer County, and also provides the Cities of Auburn and Loomis with waste disposal services.⁶⁰ Permit 31-AA-0210, for the solid waste landfill portion of the site, was issued on August 19, 2003 and the landfill has an estimated closure date of January 1, 2036.⁶¹ Solid Waste Facility Permit 31-AA-0001 was issued on December 12, 2011 and has a regularly scheduled review due date of December 12, 2016, with no closure dates.⁶²

In 2011, the landfill was reported to have used 11,255,843 cubic yards out of a total of 36,350,000 cubic yards permitted and proposed, and the average weekday tonnage of 824 tons

⁵⁶ City of Lincoln Public Services Division: Solid Waste, 2015. Your Guide to Solid Waste Services.

⁵⁷ Western Placer Waste Management Authority, 2015. Materials Recovery Facility. Available: <http://wpwma.com/facilities.html>. Accessed June 22, 2015.

⁵⁸ CalRecycle, 2015. Facility/Site Summary Details: Western Regional Landfill (31-AA-0210). Available: www.calrecycle.ca.gov/SWFacilities/Directory/31-AA-0210/Detail/. Accessed June 22, 2015.

⁵⁹ CalRecycle, 2015. Facility/Site Summary Details: Western Placer Waste Mgmt Authority MRF (31-AA-0001). Available: www.calrecycle.ca.gov/SWFacilities/Directory/31-AA-0001/Detail/. Accessed June 22, 2015.

⁶⁰ Western Placer Waste Management Authority, 2015. Western Placer Waste Management Authority. Available: <http://wpwma.com/index.html>. Accessed June 22, 2015.

⁶¹ CalRecycle, 2015. Facility/Site Summary Details: Western Regional Landfill (31-AA-0210). Available: www.calrecycle.ca.gov/SWFacilities/Directory/31-AA-0210/Detail/. Accessed June 22, 2015.

⁶² Placer County Department of Health and Human Services, 2011. Solid Waste Facility Permit. Concurred by CalRecycle on December 6, 2011. Permit issued on December 12, 2011.

per day, which is below the peak daily tonnage of 1,900 tons per day.⁶³ In 2014, it was reported that the MRF produces a peak daily tonnage of 1,750 tons, with 910 tons of disposal or transfer and 840 tons designated as other, while maintaining a capacity for daily design tonnage up to 3,850 tons.⁶⁴ Also, since 2006, the City has maintained a 60 percent diversion rate,⁶⁵ which exceeds the 50 percent requirement mandated in Assembly Bill (AB) 939.

An enterprise fund provides solid waste collections services in Lincoln, while various fees and charges collected through utility billing also provide additional funding for services and equipment relating to solid waste disposal and transport. The 2050 City of Lincoln General Plan outlines the capital facilities fee program in its Public Facilities Element, which requires all new development to participate in the funding of needed public facilities based on recognized program standards. An equivalent dwelling unit factor is applied to ensure that equal payment responsibilities are borne by both residential and nonresidential development.⁶⁶

Regulatory Setting

Federal

Title 40 of the Code of Federal Regulations

Title 40 of the Code of Federal Regulations (CFR), Part 258 (Resource Conservation and Recovery Act RCRA, Subtitle D) contains laws pertaining to municipal solid waste landfills and requires states to establish and enforce their own permitting programs that incorporate federal landfill criteria. These federal regulations deal with the location, operation, design, groundwater monitoring, and landfill closure.

State

California Integrated Waste Management Act

The California Integrated Waste Management Act (CIWMA or AB 939) of 1989 (as amended) was implemented in order to increase landfill life while conserving recoverable resources through increased recycling and source reduction. The CIWMA requires cities and counties to prepare Solid Waste Management Plans and to implement comprehensive source reduction and recycling elements. Key facets of the regulation include diversion of 50 percent of solid waste from landfills, while identifying programs to support local recycling in manufacturing, as well as the purchase of recycled products. CalRecycle is required to make a finding regarding whether a given jurisdiction is in compliance with CIWMA diversion requirements each calendar year, based on the jurisdiction's progress along a specified schedule for increasing recycling. Along

⁶³ CalRecycle, 2011. Application for Solid Waste Facility Permit/Waste Discharge Permit Requirements: MRF. Accepted on March 22, 2011.

⁶⁴ CalRecycle, 2014. Application for Solid Waste Facility Permit/Waste Discharge Permit Requirements: MRF. Accepted on December 11, 2014.

⁶⁵ Cal Recycle, 2015. Jurisdiction Diversion/Disposal Rate Summary (1995-2006). Available: www.calrecycle.ca.gov/LGCentral/reports/diversionprogram/JurisdictionDiversion.aspx. Accessed June 22, 2015.

⁶⁶ City of Lincoln, 2008. City of Lincoln 2050 General Plan. Adopted March 25, 2008. pp. 6-1 to 6-14.

with the 50 percent benchmark, jurisdictions were also required to create a Source Reduction and Recycling Element (SRRE). According to 2006 data, the City had a diversion rate of 60 percent, which exceeds the requirements of AB 939.

Local Government Construction and Demolition Guide (SB 1374)

SB 1374 assists jurisdictions with the diversion of construction and demolition (C&D) waste material, focusing mainly on the California Integrated Waste Management Board (CIWMB) to create and adopt a model C&D diversion ordinance concerning voluntary use across all jurisdictions statewide. Debris from C&D is regulated in the following code below.

Local

City of Lincoln 2050 General Plan

The following goals and policies from the 2050 General Plan are relevant to solid waste:

Goal PFS-5 Ensure provision of an efficient program for the management and reduction of solid waste materials, including collection and disposal, in order to protect public health and the natural environment, to conserve energy and natural resources, and to extend landfill capacity.

Policies

- PFS-5.2 **Waste Reduction.** The City shall promote maximum use of solid waste reduction, recycling, and composting of wastes for a reduction in residential, commercial, and industrial waste disposal.
- PFS-5.3 **Recycling of Construction Debris.** The City shall encourage the recycling of construction debris.
- PFS-5.5 **Solid Waste Reduction Programs.** The City shall aggressively pursue measures for recycling of materials and pursue a financing mechanism for solid waste reduction programs.
- PFS-5.6 **Commercial and Industrial Land Uses.** The City shall discourage commercial/industrial land uses which generate large volumes of non-recyclable solid waste.
- PFS-5.10 **City Usage of Recycled Materials and Products.** The City should use recycled materials and products where economically feasible.

The relationship of these 2050 General Plan policies to the V5SP is included in Chapter 5.

Analysis, Impacts, and Mitigation

Significance Criteria

In accordance with Appendix G of the CEQA Statute and Guidelines, a project would have a significant effect on landfill capacity if it would:

- Generate enough solid waste to exceed landfill capacity, substantially shorten the life of the landfill, or render the landfill uncompliant with federal, state, or local regulations.

Methods and Assumptions

Impacts on solid waste were evaluated by comparing anticipated waste generation rates with implementation of the Project to available capacity in regional/applicable landfills.

Impacts and Mitigation Measures

Impact 3.16-5: Implementation of the proposed project would not result in solid waste exceedance of capacity at the Western Regional Sanitary Landfill.

Full Specific Plan

The proposed project would include a total of 8,206 residential units and 4,581,600 square feet of commercial and industrial uses. Utilizing the City's solid waste generation rates, provided in the City General Plan (see **Table 3.16-9**), the proposed project would generate a total of 105,145 pounds (lbs) per day of solid waste, or 52.6 tons per day, equivalent to approximately 19,199 tons of solid waste per year (see Table 3.16-9). As discussed previously, the WRSL currently receives approximately 824 tons per day on average, with a peak daily tonnage of 1,900 tons (3,800,000 lbs). The increase of 52.6 tons per day would increase daily tonnage at the WRSL from 824 tons (1,648,000 lbs) per day to 876.6 tons (1,753,000 lbs) per day, well below the peak tonnage of 1,900 tons per day.

**TABLE 3.16-9.
LINCOLN VILLAGE 5 SPECIFIC PLAN PROJECTED WASTE GENERATION**

Land Use	Number of Units	Non-residential Square Footage	Generation Rate (per day)	Generation Rate (per square foot per day)	Solid Waste Generated (per day)
Full Specific Plan					
Residential	8,206	--	7.23 lbs per unit	--	59,329 lbs
Commercial/Industrial	--	4,581,600	--	1 lb per 100 ft ²	45,816 lbs
TOTAL	8,206	4,581,600	--	--	105,145 lbs
Area A					
Residential	2,417	--	7.23 lbs per unit	--	17,475 lbs
Commercial/Industrial	--	1,094,000	--	1 lb per 100 ft ²	10,940 lbs
TOTAL AREA A	2,417	1,094,000	--	--	28,415lbs

Source: City of Lincoln, 2006. City of Lincoln 2050 General Plan Update Draft Environmental Impact Report, October 2006. p. 6-29.

The landfill's MRF currently processes a peak daily tonnage of 1,750 tons, yet maintains capacity to process up to 3,850 tons per day. The project would result in an estimated increase of 52.6 tons per day at the MRF at buildout, increasing the daily tonnage from 1,750 to 1,802.6 tons. This increase, in combination with existing MRF processing rates, would remain well under MRF processing capacity. Additionally, assuming a 60 percent diversion rate (see previous discussion), approximately 31.6 tons per day would be landfilled under full project buildout. However, this amount, in addition to existing daily disposal rates, would still be far less than the landfill's existing capacity of 1,900 tons per day. Therefore, the proposed project would not require the expansion the WRSL or construction of any new solid waste facilities, and this impact is considered **less than significant**.

Area A

Area A would include a total of 2,417 residential units and 17,475 square feet of various commercial and industrial uses. Using the City’s solid waste generation rates, as shown in Table 3.16-9, buildout of only Area A would result in the generation of 14.2 tons (28,400) per day of solid waste, in comparison to baseline conditions. This amount is less than the amount that would be generated under buildout of the full Specific Plan, which would not exceed daily capacities at the MRF or landfill. Therefore, buildout of Area A along would not exceed daily capacities at the MRF or landfill, and this impact is considered **less than significant**.

Mitigation Measure

None required.

3.16.5 Cumulative Impacts

The cumulative context for the provision of water supply is the PCWA and NID service areas for water supply sources and raw water treatment. The cumulative context for water supply infrastructure is the City’s SOI and water distribution system under the 2050 General Plan. The cumulative context for wastewater is the service area for the WWTRF, while the cumulative context for stormwater includes the Auburn Ravine and Markham Ravine watersheds. The cumulative context for solid waste encompasses the cities that receive solid waste service at the WRS: Lincoln, Rocklin, and Roseville.

Impacts and Mitigation Measures

Impact 3.16-6: The proposed project would contribute to cumulative increases in demand for water supply that could result in the need for new or expanded entitlements or supply sources.

The analysis provided here draws on the analysis of water supply availability provided in the WSA completed for the project (Appendix H). Table 3.16-6 (above) presents water supply and demand during normal, single-dry and multi-dry hydrologic conditions for all water supply sources through 2040, including demand and supply for the proposed project through buildout and including construction period water demand, on top of other cumulative scenario demands for known and anticipated projects within the City’s service area. As discussed previously, water supply is projected to be sufficient under normal, single- and multi-year conditions to meet projected demand through 2040 without the need to implement demand reduction measures, for the entire City. As shown in the table, groundwater supplies are expected to be pumped as proposed, with no identified “shortfall” between available supplies and projected demands. Based on this representation, sufficient water will be available under all hydrologic conditions in each of the 5-year increments through 2040. As discussed previously, PCWA and NID, the primary water suppliers for the City, maintain sufficient water available to supply the City through at least 2040, in addition to the other municipalities and water purveyors that they serve. See Impact 3.16-1 for additional detail.

Through 2040, the City would rely upon treated surface water from PCWA and NID, groundwater, and recycled water to meet water demands within its service area. During single-dry and multiple-dry years, the City may experience curtailments of its treated surface water supplies from PCWA and NID. To manage water supplies, the City would increase groundwater pumping to supplement shortages resulting from curtailments to its PCWA and NID supplies, in a manner consistent with the City's 10 percent-of-total supply goal. However, as agricultural land is converted to urban land, overall water usage is expected to decrease.

Thus, water supplies available to the City would be more than sufficient to meet anticipated demand of the City, including the project, through 2040. Specifically, as shown in Table 3.16-6, sufficient supplies would be available to meet demand (20,336 AFY citywide, including the project) under normal (47,956 AFY of supply available), single-dry (40,934 AFY of supply available) and multi-year drought (46,551 AFY of supply available) periods. Sufficient water would be available to supply the project in addition to other cumulative scenario water demands, using existing supply sources without the need for new or expanded entitlements or supply sources, beyond those already secured or planned. Supply considerations as relevant to groundwater, as well as climate change, reclaimed water, and the transition of lands from agricultural to urban water use are discussed in this context under Impact 3.16-1. This is considered a **less than significant cumulative impact**.

Mitigation Measures

None required.

Impact 3.16-7: The proposed project would contribute to cumulative increases in demand for water supply that could result in the need for new or expanded treatment, storage or conveyance facilities.

The analysis provided here draws on the analysis of water supply availability provided in the WSA completed for the project (Appendix H). As described in Impact 3.16-3, sufficient water exists to meet current and projected water demand through 2040 during normal, single-dry and multiple dry years. If currently planned PCWA infrastructure described under Impact 3.16-2 is completed then supply issues for the City would be limited to completion of the Phase 3 pipeline.⁶⁷ The completion of the Phase 3 Pipeline (expected by the summer of 2017) would allow for additional deliveries of treated water supply from PCWA. Because this pipeline would be in place and operational before buildout of the 2050 General Plan, including the proposed project, adequate delivery capacity of PCWA water to the City would be available. However, there are potential water treatment and delivery infrastructure constraints associated with PCWA facilities. Specifically, as discussed under Impact 3.16-2, at buildout in 2040, the City would

⁶⁷ Tully & Young, 2015, Village 5/SUD-B SB 610 Water Supply Assessment (Appendix H). June 2015 p. 5-10.

require approximately 31 mgd of treatment capacity. This would exceed the available treatment capacity in the system; therefore, additional treatment capacity would be needed and this is considered a potentially significant cumulative impact. The proposed project would require approximately 5.7 mgd of the 31 mgd of treatment capacity which is considered a significant contribution to this cumulative impact.

PCWA is in the process of completing design for the first phase of the new Ophir WTP, which would provide an additional 10 mgd of treatment capacity that could be expanded to treat up to 120 mgd. The first phase of the Ophir WTP is expected to be completed (in operation) by 2020. As previously noted the Ophir Road Pipeline project was completed in 2014 and included the construction of the first segment of the 60-inch diameter transmission main for the future Ophir WTP. Work also included improvements at the Ophir Road Pump Station and at two locations on Dutch Ravine. With completion of the Ophir Road Pipeline project, there would be adequate capacity in the system to convey water to the future Ophir WTP by PCWA. The impacts of constructing and operating the Ophir WTP and pipeline were evaluated in the Foothill Phase II WTP and Pipeline Project EIR (State Clearinghouse No. 2004102002), (incorporated by reference; see prior discussion for Impact 3.16-2). Short-term significant and unavoidable impacts were identified for construction air emissions even with implementation of applicable emission control measures.

Additional PCWA facilities required to address water demand anticipated under 2050 General Plan buildout include metering stations at various locations. Several additional NID facilities would also be required to connect with the City's existing treated water supply system to help meet water demands anticipated under the 2050 General Plan. All anticipated water delivery infrastructure could require additional project-level CEQA environmental review and could result in the following potentially significant environmental impacts:

- Exposure of soils to erosion and loss of topsoil during construction;
- Surface water quality (cumulative impact);
- Construction-related air emissions;
- Construction and operations-related noise impacts;
- Visual and/or light and glare impacts;
- Loss of protected species and their habitats;
- Conversion of existing agricultural lands or resources;
- Fisheries (cumulative impact); and
- Exposure to pre-existing listed and unknown hazardous materials contamination.

The City has entered into a number of Development Agreements with land developers. These agreements will provide the funding sources for additional water storage facilities, municipal well construction, water transmission facilities and dedication of water rights to groundwater underlying those project sites. Because the necessary improvements have been identified in the

City's 2050 General Plan and 2015 UWMP and will be paid for through development agreements, it is reasonable to assume that the improvements would be completed as development progresses throughout current and annexed areas of the SOI. However, even with implementation of the policies and implementation measures to address the potential environmental impacts of future projects summarized above, the ability to mitigate these potential impacts is contingent on a variety of factors including the severity of the impact, existing land use conditions, and the technical feasibility of being able to implement any proposed mitigation measures for a specific project. Due to these uncertainties, potential environmental impacts resulting from the construction and/or expansion of water treatment and/or distribution facilities or infrastructure to serve 2050 General Plan buildout would be considered a **potentially significant cumulative impact**.

Mitigation Measures

Mitigation Measure 3.16-7

Implement Mitigation Measure 3.16-2(a).

Impact Significance after Mitigation: Implementation of Mitigation Measure 3.16-7 would reduce the project's contribution to potentially significant infrastructure impacts to a less-than-significant level because it requires the construction and operation of the Ophir WTP. However, even with implementation of the policies and implementation measures to address the potential environmental impacts of future projects summarized above, the ability to mitigate these potential impacts is contingent on a variety of factors including the severity of the impact, existing land use conditions, and the technical feasibility of being able to implement any proposed mitigation measures for a specific project. Due to these uncertainties, potential environmental impacts resulting from the construction and/or expansion of water treatment and/or distribution facilities or infrastructure to serve 2050 General Plan buildout would be considered a **significant and unavoidable cumulative impact**. The proposed project is within the scope of development anticipated in the 2050 General Plan and evaluated in the General Plan EIR, and, therefore, would contribute to this cumulative significant and unavoidable impact.

Uncertainty Regarding Future Supply

The City has used available information to describe probable sources of water and to disclose the reasonably foreseeable impacts of supplying water to the proposed project, as described in Impacts 3.16-1 through 3.16-4. Notwithstanding some uncertainty concerning the distribution of water, as described in Impacts 3.16-1 and 3.16-4, there is a reasonable likelihood that the project's water supply would be available and adequate to serve cumulative development. As described previously in this section, an immediate and long-term supply is available for the foreseeable future. In order to fully access the water supply to which it has entitlements, PCWA has identified the need for a number of major infrastructure projects. Because the water provided to City of Lincoln is part of PCWA's total supply, if a portion of the supply is unavailable due to

infrastructure constraints, it could be necessary to divert water that would otherwise be available to Lincoln development. The likelihood of permanent curtailment occurring is remote, but if it were to occur, development could be delayed. Once developed, barring a major shift in climate or policy or the future application of the California water law principles described earlier in a manner significantly more restrictive than presently applied, it is assumed that the water supply would continue to flow to PCWA without interruption, consistent with its contracts with the U.S. Bureau of Reclamation, PG&E, and MFP water rights. For a discussion of uncertainty as relevant to climate change, please refer to the direct impact discussion under Impact 3.6-1.

Impact 3.16-8: Implementation of the proposed project and other cumulative development would contribute to cumulative additional wastewater flows that would result in the expansion or construction of new facilities.

Buildout of the Lincoln General Plan, which includes Village 5, would increase wastewater generation, requiring additional conveyance to the WWTRF for treatment. The City currently maintains a network of sewer lift stations and gravity sewer lines that feed into 15-inch and 66-inch trunk lines that transport sewage to the WWTRF. Appendix G of the City's 2050 General Plan, "Sewer Constraints Analysis and Sewer Facilities Cost Estimate," identifies anticipated wastewater collection demand within the City through 50-year buildout projections. All future developments, along with the proposed project, would be required to pay assessment fees contributing to the expansion of the treatment plant and any other wastewater facilities.

The proposed project would generate 3.8 mgd (ADWF) of wastewater at full buildout. As discussed for direct impacts, the City has already completed programmatic level CEQA clearance to expand the WWTRF to 12.0 mgd. Additionally, the WWTRF has been designed to allow expansion of additional 24 mgd.⁶⁸ This level of expansion is anticipated to be sufficient to meet anticipated wastewater demand at buildout of the 2050 General Plan, which includes the proposed project, as discussed in the 2006 General Plan EIR. As discussed in the 2050 General Plan, future expansion of the WWTRF could result in the following significant unavoidable impacts:

- Potential loss or adverse modification of wetland habitats;
- Potential loss of special-status species including vernal pool fairy shrimp and various plant species;
- Generation of odors; and
- Permanent conversion of prime farmland and loss of prime soils.

It is expected that the ground disturbance impacts (e.g., construction dust emissions, erosion and stormwater runoff, cultural resources, vegetation/wildlife) would be limited to the footprint of the

⁶⁸ Cunningham Engineering, 2015. Wastewater Master Plan for Village 5 Specific Plan: City of Lincoln, CA. October 9, 2015. p. 4.

expansion area. Other potential impacts such as noise, odor, and lighting would be generated by ongoing operation of the WWTRF and would not substantially differ from current operations. Because the WWTRF expansion would occur only on City property, changes in the visual environment would not be readily apparent to off-site locations. As more stringent water quality standards are imposed by the Regional Water Board, the WWTRF would be required to comply with those standards, which would ensure potential water quality and related aquatic resources impacts remain minimal. The proposed project would result in a **cumulatively significant and unavoidable impact** for the full Plan Area because the proposed project is within the scope of development anticipated in the General Plan, was examined in the General Plan EIR, where the General Plan EIR found that anticipated expansion would result in a significant and unavoidable impact. There are no mitigation measures that could be implemented by the project applicant(s) for the programmatic portion that would reduce the cumulative environmental impacts of potential WWTRF expansions to serve City of Lincoln buildout.

Mitigation Measures

None feasible.

Impact Significance after Mitigation: There are no feasible mitigation measures that would reduce this cumulative impact to a less-than-significant level. Therefore, this cumulative impact would remain **significant and unavoidable**.

Impact 3.16-9: Implementation of the proposed project and other cumulative development would contribute to the cumulative increase in the demand for stormwater and drainage facilities.

The proposed project would result in an increase in deployment of infrastructure that would convey stormwater to Auburn Ravine and Markham Ravine. Other cumulative scenario projects would also deploy infrastructure within their own project areas, located within the watersheds of Auburn Ravine and Markham Ravine. This scenario would generally contribute to a net increase in the installation of stormwater facilities in the City, and other affected areas. However, because project stormwater would drain directly into either Auburn Ravine or Markham Ravine, project-related stormwater flows would not be routed into City pipelines or other City stormwater infrastructure outside of the Plan Area. As a result, the proposed changes in stormwater flow would not combine with increases in stormwater flow from other projects, such that stormwater infrastructure offsite could be affected. Therefore, the project would not contribute to any cumulatively considerable impact on stormwater and drainage facilities, and this is considered a **less-than-significant cumulative impact**. For a discussion of cumulative impacts associated with the physical effects of managing stormwater, please refer to Section 3.10, Hydrology, Drainage, and Water Quality.

Mitigation Measures

None required.

Impact 3.16-10: Implementation of the proposed project and other cumulative development would contribute to cumulative solid waste generation that would lead to exceedance for Western Regional Sanitary Landfill.

Development and annexation throughout unincorporated western Placer County, along with Lincoln, Rocklin, and Roseville would increase the number of residential, commercial, and industrial uses over the next three decades. Waste generated by these new residential, commercial, and industrial areas would need to be diverted at the existing MRF and ultimately disposed of at the WRS�. Based on the existing permitting, there is currently 80 percent remaining capacity (approximately 29,093,819 cubic yards), roughly equivalent to 21,820,364 tons (assumes 0.75 tons per cubic yard as compacted in a landfill) of available capacity.⁶⁹

The proposed project would be built out between 2030 and 2040, and as discussed for direct impacts, would generate approximately 52.6 tons per day that would be routed to the MRF, and about 31.6 tons per day that would be routed to the landfill. The additional materials delivered to the MRF would represent 2.1 percent of existing available capacity at the MRF, and 2.1 percent of the existing available capacity at the landfill. These increases represent a very small fraction of total available capacity, and in combination with other anticipated projects in Placer County that would deliver materials to the WRS�, would not be cumulatively considerable. Therefore, no cumulative scenario impact would occur, and this impact is considered **less-than-significant cumulative impact**.

Mitigation Measures

None required.

⁶⁹ CalRecycle, 2015. Facility/Site Summary Details: Western Regional Landfill (31-AA-0210). Available: www.calrecycle.ca.gov/SWFacilities/Directory/31-AA-0210/Detail/. Accessed on June 22, 2015.

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3.2 Agriculture and Forestry Resources

This section of the Draft EIR describes the existing agricultural uses in the Plan Area and surrounding area, and evaluates the potential for loss of farmland and other effects on agricultural productivity. This section also evaluates forestry resources in the Plan Area.

Comment letters received in response to the Notice of Preparation (NOP) concern the loss of Important Farmland, conservation of topsoil, and effects on Williamson Act lands. These topics are addressed in this section. Comments received identify concerns regarding the adequacy of buffers or setbacks between existing agricultural uses and proposed future residential development, and effects on the Lincoln High School farm property are addressed in Section 3.11, Land Use.

3.2.1 Environmental Setting

While agricultural operations have a long history in western Placer County, agriculture is no longer a major part of the City of Lincoln's economy. Grazing is the primary agricultural activity within the Plan Area. According to USDA data, grassland makes up the majority of the Plan Area, while rice is the main crop as shown in **Figure 3.2-1**. The list of crops and acreage by phase is shown in **Table 3.2-1**.

The Lincoln High School Farm is an approximately 280-acre working agricultural education site located on William Lane, west of Dowd Road within the Plan Area. Current agricultural activities at the LHS Farm include hay production, raising cattle and other livestock, a water fowl and wetland habitat, a fruit orchard, cold water aquaculture for raising trout, and a mechanics shop. A portion of the school farm is subject to a conservation easement that covers approximately 100 acres of the site. The conservation easement area serves as mitigation land for habitat of protected species.

An aircraft landing strip easement is located approximately one-half mile east of Dowd Road and extends south from Markham Ravine. The landing strip is primarily used as a dirt roadway for agricultural vehicles. Aircraft using the landing strip are generally small aircraft used for agricultural operations, such as crop dusting. The location of the easement is shown in Figure 3.11-1 in Section 3.11, Land Use, of this EIR.

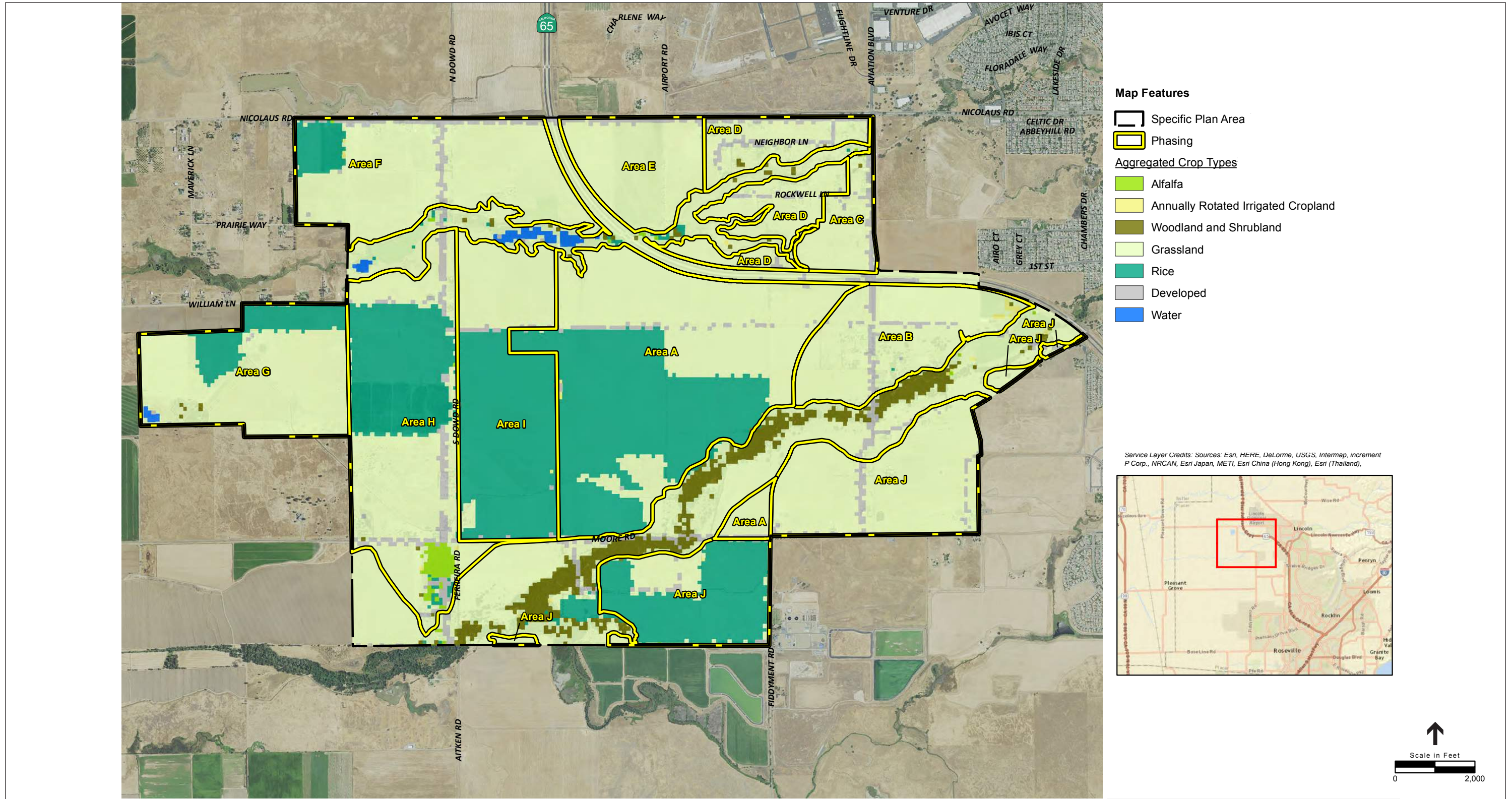
Farmland Classification

The Department of Conservation's Farmland Mapping and Monitoring Program (FMMP) identifies agricultural land that is lost as well as gained during two-year periods. The farmland monitoring program reports changes in the amounts of different types of farmland based on farmland classifications, which take into consideration soil surveys, availability of water, past and current agricultural practices, and other factors. Agricultural land is quantified based upon acreage and classified as Prime, Farmland of Statewide Importance, Unique Farmland, Farmland of Local

**TABLE 3.2-1
USDA CROP DATA (in acres)**

Type	Area A	Area B	Area C	Area D	Area E	Area F	Area G	Area H	Area I	Area J	No Phase	Total
Alfalfa	0.00	0.00	0.22	0.02	0.00	0.22	0.13	17.44	0.00	0.14	3.32	21.50
Annually Rotated Irrigated Cropland	1.16	2.64	0.00	0.00	0.00	0.67	0.02	0.44	0.22	0.23	2.87	8.25
Woodland and Shrubland	0.41	0.59	0.41	0.89	0.00	0.01	1.11	0.89	0.00	0.54	144.61	149.46
Grassland	401.09	231.95	75.05	205.17	170.72	349.93	267.01	277.59	126.93	351.32	717.59	3174.34
Rice	408.29	0.22	0.00	0.00	0.04	35.84	71.47	197.63	278.01	170.33	29.17	1191.01
Developed	14.39	18.79	14.76	28.57	11.54	27.03	1.60	36.38	6.02	25.05	41.81	225.94
Water	0.00	0.00	0.00	0.11	0.12	0.00	2.22	0.00	0.06	0.00	14.62	17.13
Total	825.35	254.19	90.44	234.75	182.43	413.70	343.56	530.38	411.24	547.61	953.99	4787.63

SOURCE: ECORP, 2015.



SOURCE: NAIP 2014; USDA 2012; Types aggregated by ECORP 2015

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Importance, and Grazing Land. Under CEQA, Important Farmland is comprised of Prime Farmland, Farmland of Statewide Importance, and Unique Farmland. The FMMP also quantifies the amount of urban land and other lands within the County. The farmland classifications within and adjacent to the Plan Area are shown in **Figure 3.2-2**. The farmland acreage within the Plan Area is presented in **Table 3.2-2**. The farmland classifications in the County are defined as follows:

**TABLE 3.2-2
FARMLAND ACREAGE – PLACER COUNTY AND PLAN AREA**

Farmland Type	Placer County	Plan Area
Prime Farmland	7,330	887.57
Farmland of Statewide Importance	4,045	185.63
Unique Farmland	17,894	929.75
Total Important Farmland	29,269	2,002.95
Farmland of Local Importance	99,237	1,636.98
Total Farmland	128,506	3,639.93
Grazing Land	27,883	0
Total Agricultural Land	156,389	3,639.93
Urban and Built-Up Land	59,708	24.47
Other Land	190,351	1,125.68
Water Land	5,011	0
Total Area Inventoried	411,459	4,790.08

SOURCE: California Department of Conservation, 2012. Land Use Conversion Table 2010-2012 (Table A-24). Available: <http://www.conservation.ca.gov/dlrp/fmmp/Pages/Placer.aspx>.

Prime Farmland

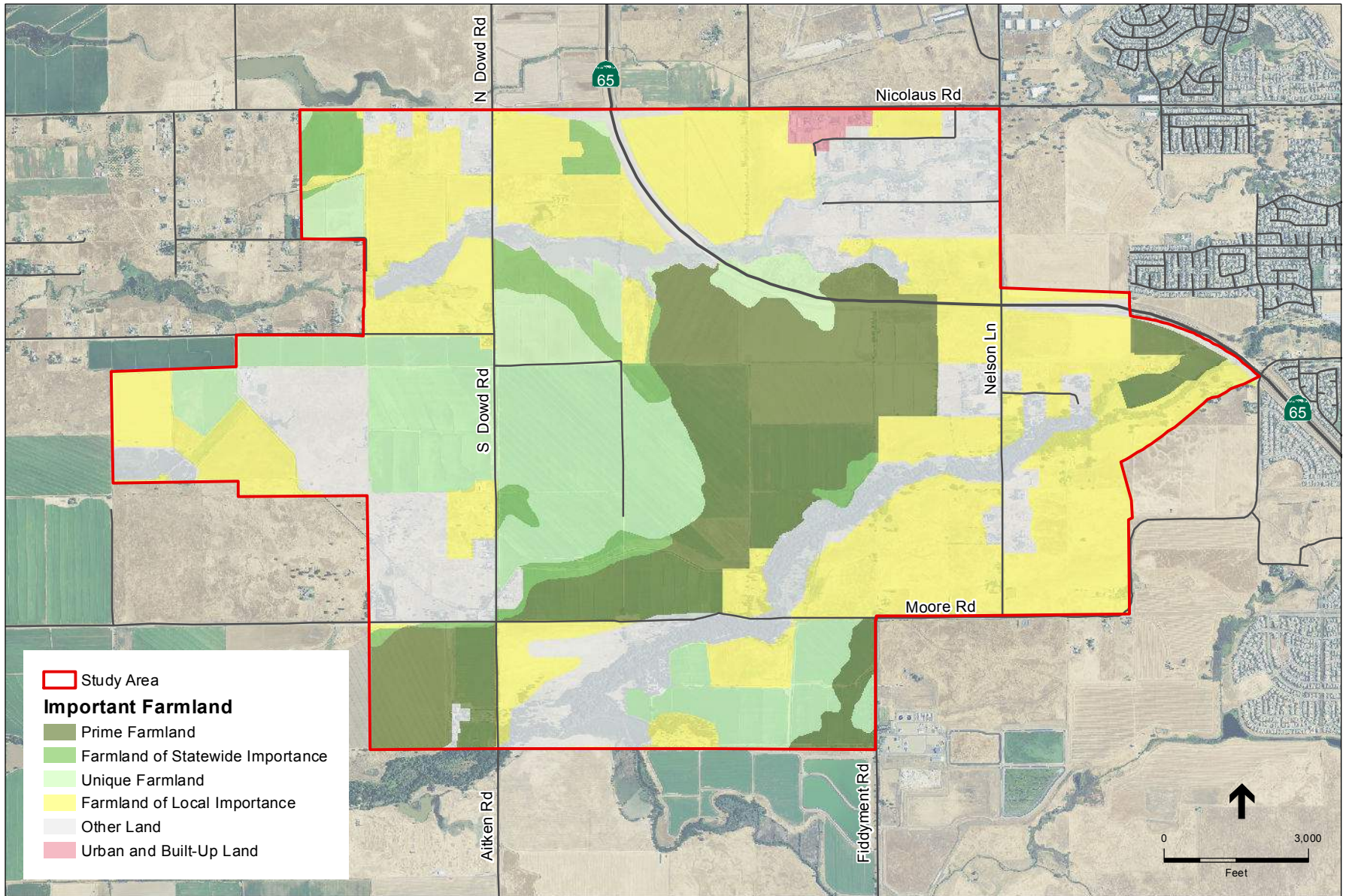
Prime farmland is farmland with the best combination of physical and chemical features able to sustain long-term agricultural production. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields. Land must have been used for irrigated agricultural production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

Farmland of Statewide Importance

Farmland of Statewide Importance is 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.

Unique Farmland

Unique Farmland is farmland of lesser quality soils used for the production of the state's leading agricultural crops. This land is usually irrigated, but may include non-irrigated orchards or vineyards as found in some climatic zones in California. Land must have been cropped at some time during the four years prior to the mapping date.



SOURCE: USDA, 2012; FMMP, 2012; ESA, 2015

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Figure 3.2-2
 Farmland Classification

Farmland of Local Importance

Farmland of Local Importance is land that does not otherwise meet the criteria as Prime Farmland, Farmland of Statewide Importance, or Unique Farmland, but is nevertheless understood to be important to the local agricultural economy as determined by each county's board of supervisors and a local advisory committee. Placer County defines Farmland of Local Importance as follows:

Farmlands not covered by the categories of Prime, Statewide, or Unique. They include lands zoned for agriculture by County Ordinance and the California Land Conservation Act as well as dry farmed lands, irrigated pasture lands, and other agricultural lands of significant economic importance to the County and include lands that have a potential for irrigation from Placer County water supplies.

Grazing Land

Grazing land does not meet the categories described above, but is land on which the existing vegetation is suited to the grazing of livestock.

Urban and Built-Up Land

Urban and built-up land is occupied by structures with a building density of at least one unit to 1.5 acres, or approximately six 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.

Other Land

Land designated as Other Land is 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.

Water

Land designated as Water includes perennial water bodies of at least 40 acres in surface area.

As of 2012, the Department of Conservation reported that Placer County included 156,389 acres of agricultural land, which includes all types of farmland as well as grazing land. This represents 38 percent of all land inventoried (411,459 acres total) in Placer County.

As part of its biannual land inventory, the FMMP inventories the amount of farmland lost and gained. Between 2010 and 2012, the FMMP reported that Placer County lost 4,231 acres of Important Farmland (Prime Farmland, Farmland of Statewide Importance, Unique Farmland, and Farmland of Local Importance). However, with the addition of 3,689 acres of grazing land during

that time period, the overall net conversion of agricultural land in Placer County was a loss of 542 acres.

Of the 4,790-acre Plan Area, a total of 3,640 acres is classified as farmland. With the County containing 128,506 acres of farmland, the Plan Area represents 2.8 percent of the total farmland within the County. A total of 2,003 acres of the site is designated Important Farmland, including 888 acres of Prime Farmland, 186 acres of Farmland of Statewide Importance, and 930 acres of Unique Farmland. A total of 1,640 acres of the site is Farmland of Local Importance (1,636.98 acres). The site also includes 1,126 acres of Other Land, and 25 acres of Urban and Built-up Land.

Soil Capability Classification Ratings

One method for evaluating soil quality for agricultural purposes is the soil capability rating provided by the Natural Resource Conservation Service (NRCS). Capability classes provide insight into the suitability of a soil for field crop uses based on factors that include texture, erosion, wetness, permeability, and fertility. Land capability classification generally shows the suitability of soils for most kinds of field crops. Land capability classes are designated by the numbers 1 through 8. The numbers indicate progressively greater limitations and narrower choices for practical use. Class 1 and 2 soils may only have slight to moderate limitations that restrict their use, while Class 7 and 8 soils have severe limitations that make them unsuitable for cultivation. Class 1 and 2 soils generally support Prime Farmland.

According to the United States Department of Agriculture, Natural Resources Conservation Services, the Plan Area consists of 14 different surface and near-surface soils. See Figure 3.10-2 for a visualization of the soil types in the Plan Area.

Alamo-Fiddymment Complex (104)

This map unit consists of approximately 50 percent Alamo soil, 30 percent Fiddymment soil, with the remaining 20 percent composed of a mixture of San Joaquin sandy loam, Comenta sandy loam, and Kaseberg loam. The Alamo soil is poorly drained clay at a moderate depth over a hardpan. This soil does not support Prime Farmland and is identified as Class 4 soil.

Cometa Sandy Loam (140)

This map unit consists of approximately 85 percent Cometa soil, 5 percent of Kaseberg soil, 5 percent of Fiddymment soil, 4 percent of San Joaquin soil, and 1 percent of Alamo soil. The Cometa soil is a well drained soil forming in alluvium deposits that are derived from granite. This soil supports Farmland of Statewide Importance and is identified as Class 3 soil.

Cometa-Fiddymment Complex (141)

This map unit consists of approximately 50 percent Alamo soil, 30 percent Fiddymment soil, with the remaining 20 percent composed of a mixture of San Joaquin sandy loam, Comenta sandy loam, and Kaseberg loam. The Alamo soil is poorly drained clay at a moderate depth over hardpan. This soil does not support Prime Farmland and is identified as Class 4 soil.

Cometa-Ramona Sandy Loams (142)

This map unit consists of about 50 percent Cometa soil and 30 percent Ramona soil with the remainder composed of San Joaquin sandy loam, Fiddymment loam, and Alamo clays. The Ramona soil is a very deep, well-drained soil forming in alluvium from predominantly granitic sources. The Cometa soil is discussed above. This soil supports Farmland of Statewide Importance and is identified as Class 3 soil.

Fiddymment Loam (146)

The Fiddymment soil is moderately deep silty and clayey loam over hardpan. The soils above the hardpan tend to be silts and clays to an approximate depth of 28 inches. This soil does not support Prime Farmland and is identified as Class 4 soil.

Fiddymment-Kaseberg Loams (147)

This map unit consists of approximately 50 percent Fiddymment soil and 30 percent Kaseberg soil. The Kaseberg soil is a well-drained soil that is shallow over hardpan. Fiddymment soil is discussed above. This soil does not support Prime Farmland and is identified as Class 4 soil.

Kilaga Loam (162)

This map unit consists of approximately 80 percent Kilaga soil, 5 percent San Joaquin soil, 5 percent Cometa soil, 5 percent Ramona soil, 4 percent Xerofluvents, and 1 percent unnamed. San Joaquin soil is a well-drained loam. If irrigated, this soil supports Prime Farmland and is identified as Class 2 soil. Nonirrigated land is identified as Class 3 soil.

Ramona Sandy Loam (175)

This map unit consists of approximately 80 percent Ramona soil, 10 percent Kilaga soil, 5 percent Cometa soil, 3 percent Xerofluvents, and 2 percent unnamed. Ramona soil is a well-drained sandy loam. If irrigated, this soil supports Prime Farmland and is identified as Class 2 soil. Nonirrigated land is identified as Class 3 soil.

San Joaquin Sandy Loam (181)

This map unit consists of approximately 80 percent San Joaquin soil, 10 percent Cometa soil, 5 percent Fiddymment loam, 3 percent unnamed, and 2 percent Alamo soil. San Joaquin soil is a well-drained claypan soil that is moderately deep over hard pan. This soil does not support Prime Farmland and is identified as Class 4 soil.

San Joaquin-Cometa Sandy Loams (182)

This map unit consists of approximately 40 percent San Joaquin soil, 30 percent Cometa soil, 10 percent Fiddymment loam, and the remaining 20 percent is composed of Kaseberg loam, Ramona sandy loam, Alamo clay, and Kilaga loam. San Joaquin soil is a well-drained claypan soil that is moderately deep over hard pan. This soil does not support Prime Farmland and is identified as Class 4 soil.

Xerofluvents, Occasionally Flooded (193)

This map unit consists of small, moderately well-drained loamy sand to fine sandy loam in minor drainage ways and terraces. This is identified as Class 2 soil and supports Prime Farmland if irrigated.

Xerofluvents, Frequently Flooded (194)

This map unit consists of small, somewhat poorly drained loamy alluvium in minor drainage ways and terraces. This soil does not support Prime Farmland and is identified as Class 4 soil.

Xerofluvents, Hardpan Substratum (195)

This map unit consists of small, fairly poorly drained loamy alluvium in minor drainage ways and terraces. This soil supports Farmland of Statewide Importance and is identified as Class 3 soil.

Water (198)

This map unit consists solely of 100 percent water.

Williamson Act Contract Lands

The California Land Conservation Act of 1965, also known as the Williamson Act, is codified in Government Code Section 51200 et seq. The Act recognizes the importance of agricultural land, and includes provisions to protect and ensure the orderly conversion of agricultural land. As is described in greater detail below, the Williamson Act allows property owners to enter into contracts with the County through which they commit to not developing the subject property in exchange for a guarantee that the property will be taxed at agricultural values. The contracts run for a 10-year period, and are automatically renewed each year. The contracts may not be cancelled except for a limited number of public purposes and a cancellation fee may apply. The process for exiting the contracts involves non-renewal, which takes place over a nine year period.

The Plan Area includes 15 parcels (987.08 acres) that are subject to active Williamson Act contracts, as well as 10 parcels (302.27 acres) that have started the non-renewal process.

Figure 3.2-3 shows areas of land under active contracts, as well as land in the non-renewal process.

3.2.2 Regulatory Setting

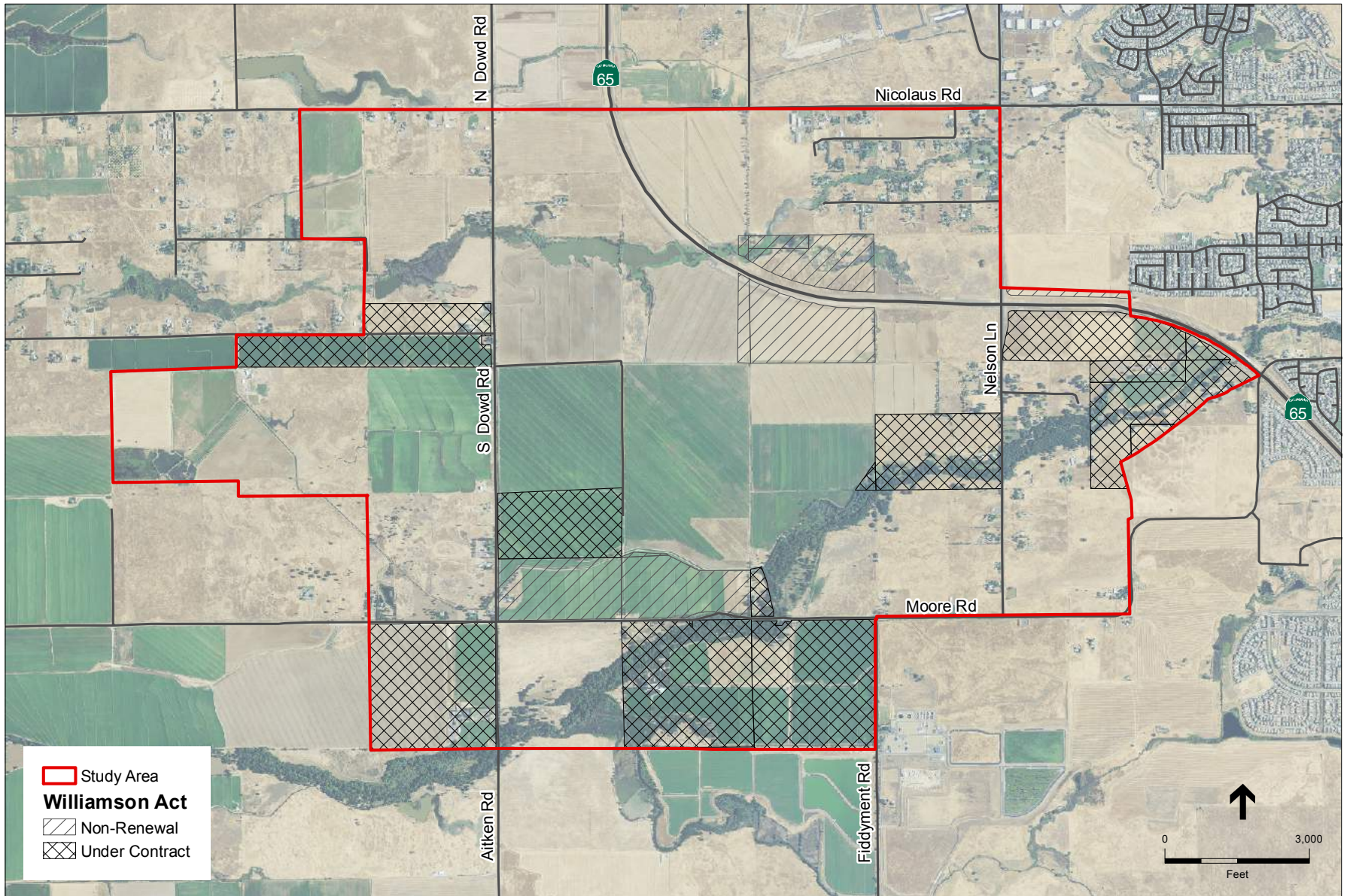
Federal

There are no federal regulations that pertain to agricultural and forestry resources that are applicable to the proposed project.

State

Williamson Act

The California Land Conservation Act of 1965 (Government Code Section 51200), also known as the Williamson Act, recognizes the importance of agricultural land as an economic resource. The Williamson Act enables local governments to enter into contracts with private landowners for the



SOURCE: USDA, 2012; Placer County, 2016; ESA, 2016

Lincoln Village 5 . 130368
Figure 3.2-3
 Williamson Act Contracts

purpose of restricting specific parcels of land to agricultural or related open space use. In return, landowners receive property tax assessments which are much lower than normal because they are based upon farming and open space uses as opposed to full market value.

Williamson Act contracts remain in effect for 10 years. Contracts are automatically renewed every 10 years, unless the property owner files for a notice of nonrenewal with the County. The filing of a notice of nonrenewal triggers a nine-year countdown of the contract. When Williamson Act contract lands are annexed to a city, that city succeeds to the administration of the contract, which typically remains in force until it is cancelled or expires.

The Placer County zoning ordinance, Section 17.60 4.150, provides a process by which cancellation of a Williamson Act contract may occur. In order for the County to cancel a contract under its jurisdiction, the following findings must be made:

F. **Required Findings.** The approval of a cancellation request shall require that the board of supervisors first make all of the findings under one of the following two sets of findings to approve a cancellation request, in compliance with Section 51282 of the Act.

1. The cancellation is consistent with the purposes of the California Land Conservation Act of 1965.
 - a. A notice of nonrenewal has been served.
 - b. Cancellation is not likely to result in the removal of adjacent lands from agricultural use.
 - c. An alternative use is proposed which is consistent with the county general plan.
 - d. Cancellation will not result in discontinuous patterns of urban development.
 - e. There is no proximate noncontracted land which is both available and suitable for the proposed alternative use, or, development of the contracted land would provide more contiguous patterns of urban development than development of proximate noncontracted land, which is sufficiently close to the contracted land that it can serve as a practical alternative for the use which is proposed for the contracted land.
2. The cancellation is in the public interest.
 - a. Other public concerns substantially outweigh the objectives of the California Land Conservation Act of 1965; and
 - b. Same as subsection (F)(1)(e).

The following provision applies to subsections (1) and (2): the uneconomic character of an existing agricultural use shall not by itself be sufficient reason for cancellation of the contract. The uneconomic character of the existing use may be considered only if there is no other reasonable or comparable agricultural use to which the land may be put.

Public Resources Code Section 21060.1

CEQA defines agricultural land as follows:

- (a) “Agricultural land” means prime farmland, farmland of statewide importance, or unique farmland, as defined by the United States Department of Agriculture land inventory and monitoring criteria, as modified for California.
- (b) In those areas of the state where lands have not been surveyed for the classifications specified by subdivision (a), “agricultural land” means land that meets the requirements of “prime agricultural land” as defined in paragraph (1), (2), (3), or (4) of subdivision (c) of Section 51201 of the Government Code. (Public Resources Code (PRC) Section 21060.1.)

The FMMP was established in 1982 to assess the location, quality, and quantity of agricultural lands and the conversion of these lands. The FMMP provides analysis of agricultural land use and land use changes throughout California.

Public Resources Code/Government Code

The California Public Resource and Government Codes defines Forest Land, Timber Land and Timber Land Production Zones as follows:

Forest land (PRC Section 12220, subd. (g) G): Land that can support 10-percent native tree cover of any species, including: hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits.

Timber Land (PRC Section 4526): Land, other than land owned by the Federal government and land designated by the Board as experimental forest land, which is available for, and capable of, growing a crop of trees of any commercial species used to produce lumber and other forest products, including Christmas trees. Commercial species shall be determined by the Board on a District basis after consultation with the District committees and others.

Timber Land Production Zone (Gov. Code, Section 51104, subd. (g) G): Timber Land Production Zone (TPZ) are areas that have been zoned and are devoted to uses for growing and harvesting timber, or for growing and harvesting timber and compatible uses.

Local

Placer County LAFCO

Local Agency Formation Commissions or LAFCOs review proposals for the formation of new local government agencies and regulate jurisdictional changes of existing agencies. A LAFCO is the entity that evaluates proposals for the creation of cities or special districts, as well as proposals to annex land to local jurisdictions. Each county in California has its own LAFCO. The

Plan Area is located within the City's Sphere of Influence (SOI), but because the Plan Area is not within the City limits, annexation is required.

Placer County LAFCO is responsible for approval of the proposed annexation for the project, and this EIR will be used by the Placer County LAFCO during its review of the proposed project. Placer County LAFCO has adopted a comprehensive list of guidelines and policies to implement its stated objectives; however, some policies are intended to provide guidance to the Commission and are not directly applicable to actions by local jurisdictions. One of the objectives of Placer County LAFCO includes preservation of agricultural land. 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.

City of Lincoln 2050 General Plan

The following goals and policies from the 2050 General Plan are relevant to Agricultural resources:

Goal LU-5 To retain rural designations for large parcels of land outside the city limits but within the Planning Area, until annexed to the city.

Policies

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

LU-5.4 **Agricultural Buffers.** 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.

LU-5.5 **Agricultural Disclosure.** Residential developments locating next to active agricultural areas will have a notice included in the deed notifying buyers of the agricultural use.

Goal OSC-2 To cooperate with Placer County in preserving agricultural operations which are located outside the City's planning boundaries.

Policies

- OSC-2.1 **Agricultural Buffers.** The City will provide for open space or other appropriate buffers, to protect agricultural operations located adjacent to the City planning boundaries, when reviewing land use plans for such areas.
- OSC-2.2 **Agricultural Disclosures.** The City will require that developers of residential projects, which are within general proximity of agricultural operations in the County, provide notification to new homeowners within their deeds, of the County's right to farm ordinance.
- OSC-2.3 **Coordinate with Neighboring City/County Agricultural Objectives.** The City shall support policies adopted by neighboring cities and Placer County to promote the viability of agriculture in the county.

The relationship of these 2050 General Plan Policies to the V5SP is included in Chapter 5, General Plan Consistency.

Placer County Conservation Plan Process

The County is in the process of developing and proposing the Placer County Conservation Plan (PCCP) as a County-proposed strategy to coordinate and streamline the state and federal natural resources regulatory permitting processes. The City of Lincoln is a participating jurisdiction in the proposed PCCP. The proposed PCCP would be a Habitat Conservation Plan (HCP) pursuant to Section 10 of the Federal Endangered Species Act and a Natural Community Conservation Plan (NCCP) under the California Natural Community Conservation Planning Act. Additional details regarding the PCCP can be found in Section 3.4, Biological Resources, of this Draft EIR.

As proposed, the PCCP would also include a County Aquatic Resources Program (CARP) to streamline the issuance of permits related to Section 404 of the Federal Clean Water Act and the Streambed Alteration Agreements pursuant to the California Fish and Game Code. The proposed PCCP would be a landscape-level plan that would facilitate the issuance of project-level permits based on how the project contributes to the County's natural, social, and economic conditions. At the time of this Draft EIR, a public draft of the proposed PCCP has not been released. Prior to a future adoption of the PCCP, environmental documents pursuant to CEQA and NEPA would be circulated and completed. Upon completion of those processes, the PCCP would require adoption or approval by the County, the US Fish and Wildlife Service, the National Marine Fisheries Service (NMFS)/National Oceanic and Atmospheric Administration (NOAA), the California Department of Fish and Wildlife, (CDFW), and, potentially, the US Army Corps of Engineers.

3.2.3 Analysis, Impacts, and Mitigation

Significance Criteria

The significance criteria for this analysis were developed from criteria presented in Appendix G, "Environmental Checklist Form," of the CEQA Guidelines and based on the professional judgment of the City of Lincoln and its consultants. The proposed project would result in a significant impact if it would:

- Result in the conversion of Important Farmland to non-agricultural use;

- Conflict with a Williamson Act contract;
- Convert forest land to non-forest use;
- Conflict with zoning for forest land or timberland; or
- Indirectly result in the conversion of farmland to non-agricultural use.

Methodology and Assumptions

Important Farmland is defined under CEQA as “prime farmland, farmland of statewide importance, or unique farmland, as defined by the United States Department of Agriculture land inventory and monitoring criteria, as modified for California” (PRC Section 21060.1). Therefore, loss or conversion of these lands would be a loss of Important Farmland and result in a significant effect under CEQA. The FMMP was compared with project maps to determine the types of farmland that could be affected by the proposed project. Figure 3.2-2 shows the FMMP classifications present on the Plan Area.

Impacts Not Analyzed Further in This EIR

- **Convert forest land to non-forest use.** The Plan Area does not include any land that meets the criteria for forest land or land zoned as timberland. Therefore, project implementation would not convert forest land to non-forest use and this issue is not evaluated further in this EIR.
- **Conflict with zoning for forest land or timberland.** The Plan Area does not include any land, and is not adjacent to any land, that is zoned as forest land or timberland or that meets the criteria for forest land or timberland. Therefore, project implementation would not conflict with zoning for forest land or timberland and this issue is not evaluated further in this EIR.

Impacts and Mitigation Measures

Impact 3.2-1: Implementation of the proposed project would result in conversion of Important Farmland to non-agricultural use.

Full Specific Plan

Not all areas classified as Important Farmland are currently farmed in the Plan Area. Likewise, agricultural operations within the Plan Area occur on soils that are not formally designated as Important Farmland. Other areas of the Plan Area that could be used for agricultural production are not being farmed and sit fallow.

As discussed above, the Plan Area includes 887.57 acres of Prime Farmland, 185.63 acres of Farmland of Statewide Importance, and 929.75 acres of Unique Farmland. Together, these three categories comprise 2,002.95 acres of Important Farmland. The proposed project would convert approximately 1,927.34 acres of Important Farmland to non-agricultural use. The 75.61 acres of Important Farmland that would not be converted to non-agricultural use is within the 345-acre Area G. Area G includes the 280-acre Lincoln High School Farm and surrounding agricultural farmland, and would remain as an agricultural and wetland preserve.

As discussed in the proposed V5SP, an Agricultural Overlay (AO) District would be established within the Plan Area. The only land use designations within the Plan Area that would not be subject to the AO would be the VOSN and VOSP open space designations located along Auburn and Markham ravines. The AO District would be established to respect and allow the continuation of agricultural uses that were in existence prior to adoption the Specific Plan. The AO District would establish regulations to guide agricultural-related activities for the interim period until urban development begins in accordance with the adopted Specific Plan. The transition of the Plan Area would be a gradual process and it is the intent of the AO District to allow for the continuation of agriculture and agricultural support uses on an interim basis. The AO District is further intended to protect continued agricultural activity by limiting land uses to those uses that are compatible and supportive of agriculture and related uses and/or agricultural by-products. Uses that would be permitted within the AO District include: one single-family residence and accessory buildings; agricultural crops and open field grazing; livestock, poultry and small animals pursuant to separation standards contained in the General Development Plan (GDP); greenhouses, when incidental to agricultural uses on premises; marketing of products on the premises; agribusiness; pasturing and grazing; and, public stables and riding academies (with restrictions). Conditionally permitted uses would include: churches; country clubs and golf courses; kennels; and, animal hospitals or clinics.

While the proposed project would permanently preserve some farmland within the Plan Area, and the AO District would allow for the continued use for agricultural purposes of all of the land within the Plan Area until it is developed for urban uses, there would still be a net permanent loss over the course of Plan Area build out of 1,927.34 acres of Important Farmland. Therefore, implementation of the full V5SP would result in a **potentially significant** impact.

Area A

Area A is located in the center of the Plan Area and would be the first area to be developed. Proposed land uses in Area A would include commercial, residential, an elementary school, open space and parks. Within Area A, there are 511.30 acres of Prime Farmland, 35.99 acres of Farmland of Statewide Importance, and 120.61 acres of Unique Farmland. Much of the land is in rice production, which provides wildlife habitat. Overall, 667.90 acres of Important Farmland would be converted to non-farmland use within Area A.

Development of Area A would result in the irreversible conversion of Important Farmland to non-agricultural use. Therefore, the impact would be **potentially significant**.

Mitigation Measures

According to the Working Draft PCCP, agricultural land is best served by large, contiguous blocks of land that can minimize edge effects from surrounding urbanization.¹ Preservation of large tracts of land that are used for active agricultural production can also provide biological habitat for sensitive species. Impacts to agricultural land and biological resources can be concurrently addressed by designating large areas for preservation. This strategy would mitigate for irreversible land conversion through permanent preservation of large tracts of land with similar land cover, habitat, soil types, agricultural productivity, and agricultural value. Land within the Reserve Acquisition Areas identified in the Working Draft PCCP would be preserved in perpetuity and would serve as mitigation for agricultural resources and farmland and biological resources. This approach, articulated below under Mitigation Measures 3.2-1(a) and 3.2-1(b) would be compatible with the overall preservation strategy included in the Working Draft PCCP.

Mitigation Measure 3.2-1(a) (Full Specific Plan)

- a) *If the PCCP has been approved and adopted, the project applicant shall comply with the PCCP to mitigate impacts to agricultural lands, most specifically rice lands.*
- b) *The project applicant shall implement Mitigation Measures 3.4-1(b) and 3.4-2(b) in Section 3.4, Biological Resources, of this Draft EIR, shown below.*

Mitigation Measure 3.4-1 (Full Specific Plan, Area A, and Windsor Cove)

- b) *If the PCCP has not been adopted and approved by the agencies at the time the project applicants wish to proceed with permitting, they shall comply with the following mitigation measures:*
 - 1) *The project applicant for each project phase shall retain a qualified biologist to delineate all wetlands and waters of the U.S. or other protected waters within the proposed development. The delineation(s) shall be submitted to the USACE for verification as part of the formal Section 404 wetland delineation process. If no wetlands are determined to be present, or if wetlands would be avoided, no further mitigation would be required. Prior to fill of any wetlands, or hydrologic interruption of the wetland, the applicant must obtain a Section 404 permit and obtain Section 401 certification from the Central Valley Regional Water Quality Control Board.*
 - 2) *For each 1.0 wetted acre of vernal pools impacted, 1.35 acres of vernal pools shall be preserved. For purposes of calculating impact and*

¹ Placer County, 2016. Placer County Conservation Plan. Working Draft, March 2016. At the time of this Draft EIR, the PCCP has not been adopted and no public draft is currently available.

mitigation requirements, seasonal depressional wetlands shall be considered vernal pools. For each 1.0 acres of impact of any other wetland type, the preservation requirement may be met by preserving 1.35 acres of any wetland type without regard for in-kind mitigation. The preservation requirement for open water may be met through preservation of 1.0 acres of open water or any wetland type for each 1.0 acres of impact. The total amount of required wetland preservation under this strategy will be automatically reduced by any and all wetland preservation required by any permitting agency.

For each 1.0 acres of vernal pool impact, 1.25 acres of compensatory wetlands shall be restored, enhanced or created including a minimum of 0.75 acres of vernal pool and no more than 0.5 acres of other wetlands. For each 1.0 acres of impact of any other wetland type, the restoration, enhancement, or creation requirement may be met by restoring, enhancing, and/or creating 1.25 acres of any wetland type without regard for in-kind mitigation. The compensatory requirement for open-water may be met through restoration, enhancement, and/or creation of 1.25 acres of open water or any wetland type for each 1.0 acres of impact. The total amount of required compensatory wetland restoration, enhancement, or creation under this measure will be automatically reduced by any and all wetland restoration, enhancement, and creation required by any permitting agency as well as any wetland preservation required by a permitting agency greater than the wetland preservation amount required by this mitigation. The compensatory requirement shall not be reduced below 1.0 by excess preservation.

Approximately 715 acres of land within the PCCP Reserve Acquisition Area that would serve as suitable mitigation land for impacts on habitat within Area A have been identified and acquired by the applicant. All mitigation lands would be located within the Upper Coon-Upper Auburn watershed north of Auburn Ravine. Soil types at these mitigation lands would consist primarily of San Joaquin-Cometa sandy loams soils, with some occasionally flooded Xerofluvents soils, frequently flooded Xerofluvents soils, Cometa sandy loam soils, and Cometa-Fiddyment complex soils. Some of these soils have impervious soil layers and support vernal pool complexes or could be restored to vernal pool or seasonal swale habitats. If the entire mitigation area is not needed for mitigation of Area A impacts, impacts to vernal pool habitats and species within other areas could be mitigated on these lands.

The mitigation lands are currently used as mostly grassland/pasture and fallow/idle cropland, with some areas used to grow winter wheat, hay/non-alfalfa, and other crops. The mitigation lands are largely surrounded by fallow/idle cropland, rice fields, hay/non-alfalfa fields, and active cropland used for growing clover/wildflowers, rye, corn, and other rotational crops. Management of the mitigation lands could be modified to provide greater benefit to special-status plant and wildlife species.

- 3) *Wetland preservation, restoration, enhancement and creation shall be accompanied by the associated uplands and hydrology necessary to sustain long-term viability in a natural or restored environmental setting.*
- 4) *It is anticipated that most wetland preservation, restoration, enhancement and creation may be accomplished on land conserved to meet the land cover mitigation requirement and will be subject to the required conservation easements and management plans. If additional lands are conserved to meet the wetland mitigation requirement, the same requirements for conservation easements and management plans shall apply.*
- 5) *Project applicants may use credits from approved conservation or mitigation banks to meet all or a part of the wetland mitigation required by this strategy.*
- 6) *The density of wetlands on land conserved to meet the land cover mitigation requirement in some projects within the V5SP may provide wetland mitigation in excess of the acreage required by this strategy. Excess mitigation may be freely assigned by private agreement between projects within the City of Lincoln and Lincoln Sphere of Influence. Such assignment shall be documented and tracked by the City. Project applicants may apply excess mitigation assigned from other projects in the Plan Area to meet all or a part of the wetland mitigation required by this measure provided proof of assignment can be demonstrated to the satisfaction of the City.*
- 7) *The City may allow mitigation located outside of Placer County that advances the City's conservation goals and meets the biological intent of this mitigation strategy. In addition, the City may accept credits from out-of-county conservation or mitigation banks towards full or partial compliance with this strategy if the project is within the agency-approved service area for the credits.*

Avoidance and Minimization Measures

- 8) *Prior to any construction activities that could impact protected waters, a protective fence shall be erected around the boundaries of avoided wetlands, including a protective buffer as dictated in the 401, 404, or 1600 permits as described in section 9) below. This fence shall remain in place until all construction activity in the immediate area is completed. No activity shall be permitted within the protected areas except for those expressly permitted by the USACE and/or CDFW.*
- 9) *A construction buffer shall be provided along all avoided wetlands in accordance with the Section 404 permit, and Section 401 Water Quality Certification. Only those uses allowed in the Section 404 permit and Section 401 Water Quality Certification and/or the Streambed Alteration Agreements shall be permitted in the wetlands preserve and its buffer.*
- 10) *Water quality in the avoided wetlands shall be protected during construction in the watershed by using erosion control techniques including (as appropriate), but not necessarily limited to, preservation of existing vegetation, mulches (e.g., hydraulic, straw, wood), and geotextiles and mats. Additionally, urban runoff shall be managed to protect water quality in the wetlands preserve using techniques such as velocity dissipation devices, sediment basins and pollution collection devices.*

3.4-2 (Full Specific Plan, Area A, and Windsor Cove)

- 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 following mitigation measures shall apply:*
 - 1) *The project applicant shall obtain a Biological Opinion and any applicable incidental take authorization from USFWS and comply with the conditions and requirements therein.*
 - 2) *The project applicant shall prepare and submit to the City, a Project-Level Open Space, Agricultural Land and Biological Resources Mitigation Plan that implements the open space, agricultural land and biological resources strategy and includes the following elements:*

may be phased with the actual development of the project.

Demonstration of compliance shall include:

- i. Demonstrate recordation of required easements for land conservation.*
 - ii. Demonstrate ownership of applicable credits and/or assignment of any applicable excess mitigation from other projects in the V5SP.*
 - iii. Demonstrate implementation of an endowment for the management of all mitigation lands.*
 - iv. Demonstrate approval of construction and monitoring plans for any required restoration, enhancement, or creation of wetlands. Provide proof of executed contracts and initiation of construction.*
 - v. Documentation and approval of any mitigation credits eligible for future use or assignment.*
- 5) An Open Space, Agricultural Land and Biological Resources Mitigation Plan shall require that for every 1.0 acres of land cover impacted, 1.35 acres of land will be conserved in perpetuity. The impact area shall be calculated to the nearest one-tenth (0.10) acre. The total amount of required acreage will be automatically reduced by any and all off-site conservation or mitigation land required by any permitting agency, specifically including upland areas required in association with wetland mitigation, whether acquired through mitigation bank credits or other means. The mitigation land to be conserved may be located in the Reserve Acquisition Areas, or elsewhere as determined by the City and regulatory agencies. No additional land mitigation will be required beyond the 1.35 to 1.0 requirement for the removal of land cover.*
- 6) To determine the acreage of land cover impact, all land within the V5SP shall be considered to be "land cover," except for land that is already developed with infrastructure, such as roadways, and homes and related development such as accessory structures, driveways, improved roadways, and landscaped areas. Any land cover that will be maintained in or restored to a natural or semi-natural condition as required by the City and/or any state or federal permitting agency shall not be included in the land cover impacted acreage. Any wetland area required to be avoided, restored, and/or enhanced on site by the City and/or any permitting agency shall be automatically excluded from the removal calculation.*

- 7) *Land conserved under this measure shall, to the extent feasible, as determined by the City, be located within the Reserve Acquisition Area, but may be included in other areas deemed adequate by the regulatory agencies. Impacts to annual grassland, vernal pool grassland, and pasture lands cover shall be mitigated on existing or restorable grassland. All other land cover impacts may be mitigated on any natural or semi-natural land within the Reserve Acquisition Areas, specifically including agricultural land. Vernal pool grassland will be mitigated by any grassland without regard to wetted area density.*
- 8) *Conservation sites shall be subject to recorded conservation easements and management plans with an identified funding source for long-term management of conserved lands. The conservation easements and management plans are subject to approval by the City and shall provide for the long-term maintenance of biological functions and values while, whenever feasible, also providing for compatible agricultural use. The City shall accept as satisfactory mitigation any conservation easement and/or management plan required and approved by the terms and conditions of any permit issued by a state or federal resource agency.*
- 9) *Project applicants may use credits from approved conservation or mitigation banks to meet all or a part of the conservation required by this strategy. Specifically, the uplands associated with any bank wetland preservation, restoration, enhancement or creation may be applied towards the land cover mitigation requirement provided that the uplands are subject to an appropriate conservation easement and the applicant can demonstrate that the approved mitigation credits include both wetland and upland land cover to the satisfaction of the City. Mitigation and conservation banks must be approved by the USFWS, USACE, or the CDFW. Credits can count toward mitigation obligations if the banks are consistent with the requirements of state and federal natural resources agencies, as accepted by the City.*
- 10) *It is anticipated that, depending on the availability and relative parcel size of potential conservation sites, some projects within the V5SP may provide land cover mitigation in excess of the acreage required by this strategy. Excess mitigation may be freely assigned by private agreement between projects within the City of Lincoln and the Lincoln Sphere of Influence. Such assignment will be documented and tracked by the City. Project applicants may apply excess mitigation assigned from other projects in the V5SP to meet all or a part of the land cover mitigation*

required by this measure provided proof of assignment can be provided to the satisfaction of the City.

- 11) *Because of their particular regulatory status and their biological importance, wetlands shall be accounted for separately through mitigation ratios requiring preservation and or restoration of a set amount of wetted area calculated as a proportion of wetland impact as set forth in Mitigation Measure 3.4-1. These wetted acres, along with any upland area that is conserved in association with the wetted acres, will be fully credited towards the required land cover mitigation. It is intended that all of the wetland mitigation shall be counted towards land cover mitigation requirements. Likewise, all wetted acres contained within land cover mitigation shall be counted towards wetland mitigation.*

Impact Significance After Mitigation: Implementation of Mitigation Measure 3.2-1(a) would implement a preservation strategy consistent with the Working Draft PCCP through the protection and restoration of sensitive habitats. Based on a review of the large tracts of land anticipated for preservation within the Working Draft PCCP Reserve Acquisition Area, implementation of Mitigation Measure 3.2-1(a) would ensure that agricultural land that is similar in character to that which would be lost in the Plan Area would be preserved at a ratio consistent with the Working Draft PCCP, particularly since agricultural land provides foraging habitat for many species that would be covered by the PCCP. Although the land preserved and restored would have similar physical characteristics and may be used for similar agricultural production as those lands converted to urban in the Plan Area, it is not possible at this point to guarantee that comparable amounts of Important Farmland that would have the same soil characteristics as those areas in the Plan Area would be preserved. Therefore, the impact to Important Farmland would remain **significant and unavoidable**.

Mitigation Measure 3.2-1(b) (Area A)

Concurrent with development of Area A, the project applicant shall preserve mitigation lands at ratios identified in Mitigation Measures 3.4-1(b) and 3.4-2. The preserved land should be of similar agricultural productivity, soil classifications, and farmland type (Prime Farmland, Farmland of Statewide Importance, and Unique Farmland) as the land proposed for development in Area A. Conservation Easements for agricultural and biological resources may be stacked, meaning that areas preserved to mitigate for biological resources can also serve as mitigation for agricultural impacts.

Impact Significance After Mitigation: Mitigation for impacts related to Area A would include approximately 715 acres of land set aside within the PCCP Reserve Acquisition Area. These mitigation lands are anticipated to be located within the Upper Coon-Upper Auburn watershed north of Auburn Ravine. Soil types on these mitigation lands would consist primarily of San

Joaquin-Cometa sandy Sandy Loams soils, with some occasionally flooded Xerofluvents soils, frequently flooded Xerofluvents soils, Cometa sandy loam soils, and Cometa-Fiddymment complex soils. Sandy Loam soils, and Cometa-Fiddymment Complex soils. The San Joaquin-Cometa Sandy Loams soils, frequently flooded Xerofluvents, and Cometa-Fiddymment Complex soils are not typically considered to support a Prime Farmland designation; however, they are critical for rice farming – a mainstay crop in this area of Placer County – because they contain clay pan soil over hardpan. Notably, rice-cropping systems are known and proven to not only provide a profitable agricultural crop, but they provide wetland habitat to a variety of wildlife species. In fact, a 1995 study by UC Davis researchers found that up to 177 animal species (21 of which are listed species), including 28 mammals, 27 amphibians/reptiles, and 122 birds, spend all or part of their life cycles in rice fields or associated levees, canals and riparian areas.

Land within this identified mitigation area includes 0.03 acres of Farmland of Statewide Importance, 46.7 acres of Unique Farmland, and 667.1 acres of Farmland of Local Importance. The mitigation lands are currently used as mostly grassland/pasture and fallow/idle cropland, with some areas used to grow winter wheat, hay/non-alfalfa, and other crops. The mitigation lands are largely surrounded by fallow/idle cropland, rice fields, hay/non-alfalfa fields, and active cropland used for growing clover/wildflowers, rye, corn, and other rotational crops.

Although the land anticipated to be used as mitigation for the loss of agricultural land in Area A would be of similar agricultural value and productivity, the mix of soil types and capabilities could be different than those converted to urban use in Area A. Therefore, the loss of Important Farmland in Area A would be a **significant and unavoidable** impact.

Impact 3.2-2: Implementation of the proposed project could conflict with a Williamson Act contract.

Full Specific Plan

Within the Plan Area, there are 25 parcels under Williamson Act contract, totaling 1,289.35 acres. As discussed above, lands under a Williamson Act contract are restricted to agricultural use in exchange for tax benefits. Of the parcels under Williamson Act contracts, ten parcels (302.27 acres) have filed for non-renewal to wind the contracts down. Upon annexation of the Plan Area to the City of Lincoln, the City would assume responsibility from Placer County for administration of the Williamson Act contracts. To cancel the remaining years on a Williamson Act contract, property owners may petition Placer County, or the City of Lincoln following annexation. Unless and until the parcels are no longer subject to a Williamson Act contract, the parcels cannot be developed as proposed under the V5SP. The GDP for the proposed project prohibits the development of land under an active Williamson Act contract. Furthermore, the GDP provides for an AO District throughout the entire Plan Area to ensure that agricultural uses and operations existing as of the time of annexation would remain viable by implementing buffers between the agricultural use and newly proposed development. Because land under a Williamson

Act contract would not be developed until the contract is cancelled and because all agricultural uses existing at the time of annexation would remain viable and valid uses under the GDP's AO District, implementation of the proposed project would not conflict with Williamson Act contracts. As a result, this impact would be considered **less than significant**.

Area A

Within Area A, there are 15.40 acres under active Williamson Act contracts and 143.15 acres in the non-renewal process. As discussed above, no development could occur until the Williamson Act contracts expire or are cancelled. The proposed project would not force early cancellation of active Williamson Act contracts. The GDP for the proposed project prohibits the development of land under an active Williamson Act contract. Furthermore, the GDP provides for an AO District throughout the entire Plan Area to ensure that agricultural uses and operations existing as of the time of annexation would remain viable by implementing buffers between the agricultural use and newly proposed development. Because land under a Williamson Act contract would not be developed until the contract is cancelled and because all agricultural uses existing at the time of annexation would remain viable and valid uses under the GDP's AO District, implementation of the proposed project would not conflict with Williamson Act contracts, and thus, this impact would be considered **less than significant**.

Mitigation Measure

None required.

Impact 3.2-3: Implementation of the proposed project could involve other changes in the environment which, due to their location or nature, could indirectly convert agricultural land to non-agricultural use.

Full Specific Plan and Area A

The proposed project would not indirectly result in the conversion of agricultural land. While implementation of the proposed Specific Plan would place new residents near existing farmlands and agricultural uses, the proposed project would include an AO District to enable continued agricultural operations within the Plan Area, as well as along the borders of the Plan Area. Further, while new growth in the area could lead to increased property values in the Plan Area, the increased property values due to new development would not substantially increase values for nearby land, creating an incentive to develop additional land adjacent to or in the vicinity of the Plan Area, since any area outside the boundary of Village 5 would have to be fully rezoned, annexed, and entitled to have similar property values.

Additionally, while limits placed on agricultural activities (e.g., prohibition of aerial crop dusting, limitations of agricultural vehicles on roads, etc.) could reduce productivity on surrounding agriculturally productive lands to a degree that continued agricultural operations are not financially viable, there are areas surrounding the City of Lincoln where agricultural and urban

uses have successfully interfaced, and development adjacent to agricultural activities and has not made agricultural production unviable due to conflicts or other pressures,

The proposed project would include the AO District to enable continued agricultural operations within the Plan Area until full buildout occurs, and would prevent conflicts between development and agricultural operations along the boundaries of the Plan Area. The proposed project emphasizes policies that support the long-term preservation of agriculture and ensure that development pressures are avoided to the maximum extent feasible. For example, the proposed project emphasizes compatibility between land uses and discourages the introduction of incompatible uses. The proposed policies also allow for the implementation of land use planning tools such as buffers to reduce the impacts between urban and agricultural land uses where these edges do occur and support the adoption and compliance with the PCCP to ensure the long-term protection of important agricultural resource land.

Following build out of the Plan Area, areas around the perimeter of the Plan Area would generally be uses that would provide transitions between urban uses within the Plan Area and agricultural lands adjacent to the Plan Area, as well as provide buffer areas. For example, land uses along the western boundary of the Plan Area would be designated as VCE, VOSP, and VOSA. The low density development of VCE and the open space preserves of those designations would reduce pressure to urbanize areas directly west of the Plan Area. Other areas to the north, east, and south of the Plan Area are designated by the Lincoln General Plan for Village development.

Development consistent with the Lincoln General Plan would concentrate development within the established Village 5 and would not extend infrastructure to areas beyond the identified growth boundary and would not size infrastructure to serve development offsite. Therefore, this impact would be **less than significant**.

Mitigation Measure

None required.

Cumulative Impacts

The cumulative context for agricultural impacts is western Placer County and a portion of southeastern Sutter County. Because conflicts with active Williamson Act contract could only occur within the Plan Area and would not create conflicts or otherwise affect Williamson Act contracted lands outside of the Plan Area, there would be no cumulative impacts related to conflicts with land subject to Williamson Act contracts.

Impact 3.2-4: Implementation of the proposed project would contribute to cumulative conversion of Important Farmland to non-agricultural use.

As discussed in the “Environmental Setting” discussion above, agriculture has long been a part of Placer County’s economy. Between 2010 and 2012, western Placer County lost 542 acres of Important Farmland. Between 2008 and 2010, western Placer County lost 1,182 acres of Important Farmland. The EIR prepared for the City of Lincoln 2050 General Plan noted that the loss of agricultural land within the City’s Sphere of Influence is part of a larger trend toward urbanization in western Placer County and the Sacramento Valley. As discussed in Impact 3.2-1 above, implementation of the proposed project would result in conversion of 1,927.34 acres of Important Farmland to non-agricultural use. Other projects in the cumulative area that would further reduce the acreage of Important Farmland in the area include Placer Vineyards Specific Plan (loss of 951 acres), Riolo Vineyard Specific Plan (loss of 78 acres), City of Lincoln Village 1 (loss of 15 acres), and City of Lincoln Village 7 Specific Plan (loss of 193.3 acres).

As shown in Table 3.2-2, there are approximately 29,269 acres of Important Farmland in Placer County. The proposed project’s conversion of approximately 7.6 percent of Placer County’s Important Farmland combined with the overall growth trends in the City of Lincoln, western Placer County, southeastern Sutter County, and the Sacramento Valley, would be cumulatively considerable. Because of the relative magnitude of the proposed project’s contribution would be cumulatively considerable, the proposed project’s impact would be **cumulatively potentially significant**.

Mitigation Measure

Mitigation Measure 3.2-4

Implement Mitigation Measure 3.2-1(a) and (b).

Impact Significance After Mitigation: Mitigation Measure 3.2-4 would require the project applicant to mitigate for loss of Important Farmland. While this measure would help preserve agricultural land, it would not replace prime farmland or the farmland taken out of production. Therefore, the cumulative impact to Important Farmland would be **cumulatively significant and unavoidable**.

Impact 3.2-5: Implementation of the proposed project would contribute to cumulative pressure to convert agricultural land to non-agricultural use.

As discussed previously, the City of Lincoln has experienced a tremendous amount of growth in the last two decades. Development within the City of Lincoln as well as surrounding cities and unincorporated western Placer County has reduced the amount of agricultural land in the area because land values tend to rise as nearby areas develop. In fact, Lincoln’s General Plan calls for

the annexation and development of surrounding unincorporated areas designated as future villages to provide areas for the City to grow. Thus, existing agricultural land may be converted to non-agricultural use through 2050, especially where landowners can make a greater profit by selling their agricultural land for development than could be made in agricultural production. As growth and development expand, additional areas of agricultural land may be affected. While the proposed project would convert agricultural land to non-agricultural use, the proposed project would be consistent with the planned reserve areas under the PCCP, which is a regional plan. While the PCCP would help mitigate for the loss of agricultural land, it would not prevent its conversion. Because the proposed project would have a cumulatively considerable incremental contribution to this cumulatively significant effect, the proposed project's impact would be **cumulatively potentially significant**.

Mitigation Measure

None available.

Impact Significance After Mitigation: Although the V5SP would include areas of agricultural preserve land, the development of new development along the periphery of the existing City boundary would substantially and permanently alter the existing agricultural character of the area. As a result, this impact remains **cumulatively significant and unavoidable**.

3.3 Air Quality

This section assesses the potential air quality impacts associated with construction and operation of the Specific Plan and identifies feasible mitigation measures where appropriate. The analysis included herein was developed based on construction and operational features described in Chapter 2, Project Description, and data provided in the *City of Lincoln 2050 General Plan*,¹ *City of Lincoln 2050 General Plan Environmental Impact Report*,² the Placer County Air Pollution Control District (PCAPCD) *CEQA Air Quality Handbook*,³ and traffic information provided by Fehr & Peers.

Several letters received in response to the NOP included comments related to air quality. The most substantive letter was submitted by the PCAPCD and provided general recommendations on the methodology for analysis of the Plan's air quality impacts. The Placer County Community Development Resource Agency provided a general comment that the Plan's air quality impacts should be assessed. The Western Placer Waste Management Authority and the Placer County Department of Facility Services provided comments relative to odor generating activities in proximity to the Plan Area. See **Appendix A** for a copy of the NOP and comments received in response to the NOP. These comments have been addressed in the impact analyses included herein.

3.3.1 Environmental Setting

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 Plan Area 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.

¹ City of Lincoln, 2008. *City of Lincoln 2050 General Plan*. Adopted March 2008.

² City of Lincoln, 2008. *City of Lincoln General Plan Update Final Environmental Impact Report*. February 2008.

³ Placer County Air Pollution Control District, 2012. *CEQA Air Quality Handbook*. October 2012.

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.

Existing Air Quality and Sensitive Receptors

Criteria Air Pollutants

As required by the Federal Clean Air Act (FCAA) passed in 1970, the U.S. Environmental Protection Agency (U.S. EPA) has identified six criteria air pollutants that are pervasive in urban environments, and for which state and national health-based ambient air quality standards have been established. The U.S. EPA calls these pollutants “criteria air pollutants” because the agency has regulated them by developing specific public health- and welfare-based criteria as the basis for setting permissible levels. Ozone, carbon monoxide (CO), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), particulate matter, and lead are the six criteria air pollutants. Notably, particulate matter is measured in two size ranges: PM₁₀ for particles less than 10 microns in diameter, and PM_{2.5} for particles less than 2.5 microns in diameter.

The California Air Resources Board (CARB) regional air quality monitoring network provides information on ambient concentrations of non-attainment criteria air pollutants. The closest monitoring stations to the Plan Area are the 1st Street station and the L Street station (each about one mile east of the Plan Area) in Lincoln. However, the L Street station is no longer active. Since there have been data gaps in monitoring at these stations, additional data from the North Sunrise Boulevard station in Roseville (about nine miles southeast of the Plan Area) have also been included. In addition, CO data has been included from the North Highlands station (about 11 miles south of the Plan Area), since CO data is not available from Placer County stations. **Table 3.3-1** presents a three-year summary of air pollutant (concentration) data collected at these monitoring stations for ozone, CO, PM₁₀, and PM_{2.5}. Table 3.3-1 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 Plan Area 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.

**TABLE 3.3-1.
AIR QUALITY DATA SUMMARY (2011-2013) FOR THE PLAN AREA**

Pollutant	Monitoring Data by Year		
	2012	2013	2014
Ozone – Lincoln 1st Street Station			
Highest 1 Hour Average (ppm) ^b	0.040	0.081	0.107
Days over State Standard (0.09 ppm) ^a	0	0	1
Highest 8 Hour Average (ppm) ^b	0.035	0.073	0.086
Days over National Standard (0.075 ppm) ^a	0	0	1
Days over State Standard (0.07 ppm) ^a	0	2	4
Ozone – Lincoln L Street Station			
Highest 1 Hour Average (ppm) ^b	0.107	--	--
Days over State Standard (0.09 ppm) ^a	1	--	--
Highest 8 Hour Average (ppm) ^b	0.085	--	--
Days over National Standard (0.075 ppm) ^a	5	--	--
Days over State Standard (0.07 ppm) ^a	14	--	--
Ozone – Roseville N Sunrise Station			
Highest 1 Hour Average (ppm) ^b	0.108	0.111	0.097
Days over State Standard (0.09 ppm) ^a	9	2	4
Highest 8 Hour Average (ppm) ^b	0.093	0.084	0.087
Days over National Standard (0.075 ppm) ^a	13	2	10
Days over State Standard (0.07 ppm) ^a	28	8	21
Carbon Monoxide – North Highlands Station			
Highest 8 Hour Average (ppm) ^b	1.54	--	--
Days over National Standard (9 ppm) ^a	0	--	--
Days over State Standard (9.0 ppm) ^a	0	--	--
Particulate Matter (PM10) – Lincoln L Street Station			
Highest 24 Hour Average – State/National ($\mu\text{g}/\text{m}^3$) ^b	31.8/31.8	--	--
Measured Days over National Standard ($150 \mu\text{g}/\text{m}^3$) ^{a,c}	0	--	--
Measured Days over State Standard ($50 \mu\text{g}/\text{m}^3$) ^{a,c}	0	--	--

**TABLE 3.3-1.
AIR QUALITY DATA SUMMARY (2011-2013) FOR THE PLAN AREA**

Pollutant	Monitoring Data by Year		
	2012	2013	2014
Particulate Matter (PM10) – Roseville N Sunrise Station			
Highest 24 Hour Average – State/National ($\mu\text{g}/\text{m}^3$) ^b	44.8/43.2	54.1/55.5	31.8/30.2
Estimated Days over National Standard ($150 \mu\text{g}/\text{m}^3$) ^{a,c}	0	0	0
Estimated Days over State Standard ($50 \mu\text{g}/\text{m}^3$) ^{a,c}	0	--	0
State Annual Average (State Standard $20 \mu\text{g}/\text{m}^3$) ^{a,b}	15.3	--	18
Particulate Matter (PM2.5) –Lincoln 1st Street Station			
State Annual Average ($12 \mu\text{g}/\text{m}^3$) ^b	--	13.4	--
Particulate Matter (PM2.5) – Roseville N Sunrise Station			
Highest 24 Hour Average ($\mu\text{g}/\text{m}^3$) ^b – National Measurement	16.1	23.7	22.2
Estimated Days over National Standard ($35 \mu\text{g}/\text{m}^3$) ^{a,c}	0	0	0
State Annual Average ($12 \mu\text{g}/\text{m}^3$) ^b	9.5	7.5	10.5

NOTES:

a Generally, state standards and national standards are not to be exceeded more than once per year.

b ppm = parts per million; $\mu\text{g}/\text{m}^3$ = micrograms per cubic meter.

c PM10 and PM2.5 is not measured every day of the year. Number of estimated days over the standard is based on 365 days per year.

Values in **bold** exceed the respective air quality standard.

SOURCE: California Air Resources Board, 2015. *Summaries of Air Quality Data, 2012-2014*. Available: <http://www.arb.ca.gov/adam/topfour/topfour1.php>. Accessed February 25, 2016.

Air quality in the Plan 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 State Route (SR) 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 Wastewater Treatment Plant and Reclamation Facility (WWTRF). 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.

Ozone

Ozone is a secondary air pollutant produced in the atmosphere through a complex series of photochemical reactions involving reactive organic gases (ROG, also sometimes referred to as volatile organic compounds or VOC by some regulating agencies) and nitrogen oxides (NOx). The main sources of ROG and NOx, often referred to as ozone precursors, are combustion processes (including motor vehicle engines) and the evaporation of solvents, paints, and fuels. Ozone is referred to as a regional air pollutant because its precursors are transported and diffused by wind concurrently with ozone production through the photochemical reaction process. Ozone

causes eye irritation, airway constriction, and shortness of breath and can aggravate existing respiratory diseases such as asthma, bronchitis, and emphysema.

Carbon Monoxide (CO)

CO is an odorless, colorless gas usually formed as the result of the incomplete combustion of fuels. The single largest source of CO is motor vehicle engines; the highest emissions occur during low travel speeds, stop-and-go driving, cold starts, and hard acceleration. Exposure to high concentrations of CO reduces the oxygen-carrying capacity of the blood and can cause headaches, nausea, dizziness, and fatigue, impair central nervous system function, and induce angina (chest pain) in persons with serious heart disease. Very high levels of CO can be fatal.

CO concentrations have declined dramatically in California due to existing controls and programs and most areas of the state, including the Placer County region, have no problem meeting the CO state and federal standards. CO measurements and modeling were important in the early 1980's when CO levels were regularly exceeded throughout California. In more recent years, CO measurements and modeling have not been a priority in most California air districts due to the retirement of older polluting vehicles, fewer emissions from new vehicles, and improvements in fuels. The clear success in reducing CO levels is evident in the first paragraph of the executive summary of the *CARB 2004 Revision to the California State Implementation Plan for Carbon Monoxide Updated Maintenance Plan for Ten Federal Planning Areas*,⁴ shown below:

“The dramatic reduction in carbon monoxide (CO) levels across California is one of the biggest success stories in air pollution control. Air Resources Board (CARB or Board) requirements for cleaner vehicles, equipment and fuels have cut peak CO levels in half since 1980, despite growth. All areas of the State designated as non-attainment for the federal 8-hour CO standard in 1991 now attain the standard, including the Los Angeles urbanized area. Even the Calexico area of Imperial County on the congested Mexican border had no violations of the federal CO standard in 2003. Only the South Coast and Calexico continue to violate the more protective State 8-hour CO standard, with declining levels beginning to approach that standard.”

Respirable Particulate Matter (PM10 and PM2.5)

PM10 and PM2.5 consist of particulate matter that is 10 microns or less in diameter and 2.5 microns or less in diameter, respectively (a micron is one-millionth of a meter). PM10 and PM2.5 represent fractions of particulate matter that can be inhaled into the air passages and the lungs and can cause adverse health effects. Some sources of particulate matter, such as wood burning in fireplaces, demolition, and construction activities, are more local in nature, while others, such as vehicular traffic, have a more regional effect. Very small particles of certain substances (e.g., sulfates and nitrates) can cause lung damage directly, or can contain adsorbed

⁴ California Air Resources Board, 2004. 2004 Revision to the California State Implementation Plan for Carbon Monoxide Updated Maintenance Plan for Ten Federal Planning Areas, p. 1.

gases (e.g., chlorides or ammonium) that may be injurious to health. Particulates also can damage materials and reduce visibility.

Large dust particles (diameter greater than 10 microns) settle out rapidly and are easily filtered by human breathing passages. This large dust is of more concern as a soiling nuisance rather than a health hazard. The remaining fraction, PM10 and PM2.5, are a health concern particularly at levels above the federal and state ambient air quality standards. PM2.5 (including diesel exhaust particles) is thought to have greater effects on health, because these particles are so small and are able to penetrate to the deepest parts of the lungs. Scientific studies have suggested links between fine particulate matter and numerous health problems including asthma, bronchitis, and acute and chronic respiratory symptoms, such as shortness of breath and painful breathing. Recent studies have shown an association between morbidity and mortality and daily concentrations of particulate matter in the air. Children are more susceptible to the health risks of PM10 and PM2.5 because their immune and respiratory systems are still developing.

Mortality studies since the 1990s have shown a statistically significant direct association between mortality (premature deaths) and daily concentrations of particulate matter in the air. Despite important gaps in scientific knowledge and continued reasons for some skepticism, a comprehensive evaluation of the research findings provides persuasive evidence that exposure to fine particulate air pollution has adverse effects on cardiopulmonary health.⁵

Nitrogen Dioxide (NO₂)

NO₂ is a reddish brown gas that is a byproduct of combustion processes. Automobiles and industrial operations are the main sources of NO₂. Aside from its contribution to ozone formation, NO₂ can increase the risk of acute and chronic respiratory disease and reduce visibility. NO₂ may be visible as a coloring component on high pollution days, especially in conjunction with high ozone levels.

Sulfur Dioxide (SO₂)

SO₂ is a combustion product of sulfur or sulfur-containing fuels such as coal and diesel. SO₂ is also a precursor to the formation of atmospheric sulfate and particulate matter and contributes to potential atmospheric sulfuric acid formation that could precipitate downwind as acid rain.

Lead

Leaded gasoline (phased out in the United States beginning in 1973), lead based paint (on older houses and cars), smelters (metal refineries), and manufacture of lead storage batteries have been the primary sources of lead released into the atmosphere. Lead has a range of adverse neurotoxic health effects, which puts children at special risk. Some lead-containing chemicals cause cancer

⁵ Dockery, D. W. and C.A. Pope, III, 2006. Health Effects of Fine Particulate Air Pollution: Lines that Connect. Journal Air & Waste Management Association. pp. 709–742.

in animals. Lead levels in the air have decreased substantially since leaded gasoline was eliminated. Ambient lead concentrations are only monitored on an as-warranted, site-specific basis in California.

Non-Criteria Air Pollutants

Toxic Air Contaminants (TACs)

In addition to the criteria pollutants presented in the tables and discussion above, TACs are also a category of environmental concern. Non-criteria air pollutants or TACs are airborne substances that are capable of causing short-term (acute) and/or long-term (chronic or carcinogenic, i.e., cancer causing) adverse human health effects (i.e., injury or illness). 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. In terms of health risks, the most volatile contaminants are diesel particulate matter, benzene, formaldehyde, 1,3-butadiene, and acetaldehyde. According to The California Almanac of Emissions and Air Quality,⁶ the majority of the estimated health risk from TACs can be attributed to relatively few compounds, the most important being particulate matter from diesel-fueled engines. The CARB identified diesel particulate matter (DPM) as a toxic air contaminant in 1998, primarily based on evidence demonstrating cancer effects in humans. The exhaust from diesel engines includes hundreds of different gaseous and particulate components, many of which are toxic. Mobile sources such as trucks and buses are among the primary sources of diesel emissions, and concentrations of DPM are higher near heavily traveled highways and rail lines with diesel locomotive operations. The risk from diesel particulate matter as determined by the CARB declined from 750 in one million in 1990 to 570 in one million in 1995; by 2000, the CARB estimated the average statewide cancer risk from DPM at 540 in one million. This calculated cancer risk values from ambient air exposure can be compared against the lifetime probability of being diagnosed with cancer in the United States, from all causes, which is more than 40 percent (based on a sampling of 17 regions nationwide), or greater than 400,000 in one million, according to the National Cancer Institute. Public exposure to TACs can result from emissions from normal operations as well as from accidental releases. Health effects of TACs include cancer, birth defects, neurological damage, and death.

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

⁶ California Air Resources Board, 2009. California Almanac of Emissions and Air Quality - 2009 Edition, Available: <http://www.arb.ca.gov/aqd/almanac/almanac09/chap509.htm>. Table 5-44 and Figure 5-12.

on its natural widespread occurrence and its use as a building material. The Specific Plan is located within a geologic area that has a low probability for the presence of NOA.⁷

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, which is located on Fiddymont Road and adjacent to the southeastern boundary of the Plan Area. In addition, the Western Regional Sanitary Landfill is located less than one mile from Area J.

Sensitive Receptors

Air quality does not affect every individual or group in the population in the same way, and some groups are more sensitive to adverse health effects caused by exposure to air pollutants than others. Population subgroups sensitive to the health effects of air pollutants include the elderly and the young, those with higher rates of respiratory disease such as asthma and chronic obstructive pulmonary disease, and with other environmental or occupational health exposures (e.g., indoor air quality) that affect cardiovascular or respiratory diseases. 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

⁷ Placer County Air Pollution Control District, 2015. Naturally Occurring Asbestos. Available: <http://www.placer.ca.gov/departments/air/noa>. Accessed February 4, 2015.

ambient air quality conditions.⁸ Workers are not considered sensitive receptors because all employers must follow regulations set forth by the Occupational Safety and Health Administration (OSHA) to ensure the health and well-being of their employees.

Specific Plan development would be built on land that is currently occupied by rural residential land uses. These residential land uses consist of widely dispersed rural residential dwellings mostly located along Nelson Lane, Moore Road, Dowd Road and Nicolaus Road. The proposed project would also be adjacent to residential land uses located along Prairie Way, William Lane and Moore Road. The nearest off-site sensitive land use to the Plan Area is a single-family home located at the end of Prairie Way located within 100 feet north-west from the outer edge of the project boundary. Other nearby off-site sensitive land uses located adjacent to the Plan Area are single family homes located within 500 feet east of the outer edge of the Specific Plan boundary, across SR 65.

3.3.2 Regulatory Setting

Federal Regulations

Criteria Pollutants

The 1970 FCAA (last amended in 1990) required that regional planning and air pollution control agencies prepare a regional air quality plan to outline the measures by which both stationary and mobile sources of pollutants will be controlled in order to achieve all national ambient standards by the deadlines specified in the FCAA. These ambient air quality standards are intended to protect public health and welfare, and they specify the concentration of pollutants (with an adequate margin of safety) to which the public can be exposed without adverse health effects. They are designed to protect those segments of the public most susceptible to respiratory distress, including asthmatics, the very young, the elderly, people weak from other illness or disease, or persons engaged in strenuous work or exercise. Healthy adults can tolerate occasional exposure to air pollution levels that are somewhat above ambient air quality standards before adverse health effects are observed.

Table 3.3-2 presents current national and state ambient air quality standards and provides a brief discussion of the related health effects and principal sources for each pollutant. Pursuant to the 1990 Federal Clean Air Act Amendments (FCAAA), the U.S. EPA classifies air basins (or portions thereof) as “attainment” or “nonattainment” for each criteria air pollutant, based on whether or not the National Ambient Air Quality Standards (NAAQS) had been achieved. “Unclassified” is defined by the FCAAA as any area that cannot be classified, on the basis of available information, as meeting or not meeting the national primary or secondary ambient air quality standard for the pollutant. **Table 3.3-3** shows the current attainment status of the Plan

⁸ 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.

**TABLE 3.3-2.
STATE AND NATIONAL CRITERIA AIR POLLUTANT STANDARDS, EFFECTS, AND SOURCES**

Pollutant	Averaging Time	State Standard	National Standard ^a		Pollutant Health and Atmospheric Effects	Major Pollutant Sources
			Primary	Secondary		
Ozone	1 hour	0.09 ppm	---	Same as primary standard	High concentrations can directly affect lungs, causing irritation. Long-term exposure may cause damage to lung tissue.	Formed when reactive organic gases (ROG) and nitrogen oxides (NO _x) react in the presence of sunlight. Major sources include on-road motor vehicles, solvent evaporation, and commercial / industrial mobile equipment.
	8 hours	0.07 ppm	0.07 ppm			
Carbon Monoxide	1 hour	20 ppm	35 ppm	---	Classified as a chemical asphyxiant, carbon monoxide interferes with the transfer of fresh oxygen to the blood and deprives sensitive tissues of oxygen.	Internal combustion engines, primarily gasoline-powered motor vehicles.
	8 hours	9.0 ppm	9 ppm	---		
Nitrogen Dioxide	1 hour	0.18 ppm	100 ppb	---	Irritating to eyes and respiratory tract. Colors atmosphere reddish-brown.	Motor vehicles, petroleum refining operations, industrial sources, aircraft, ships, and railroads.
	Annual Avg.	0.030 ppm	0.053 ppm	Same as primary standard		
Sulfur Dioxide	1 hour	0.25 ppm	75 ppb	---	Irritates upper respiratory tract; injurious to lung tissue. Can yellow the leaves of plants, destructive to marble, iron, and steel. Limits visibility and reduces sunlight.	Fuel combustion, chemical plants, sulfur recovery plants, and metal processing.
	3 hours	---	---	0.5 ppm		
	24 hours	0.04 ppm	0.14 ppm	---		
	Annual Avg.	---	0.030 ppm	---		
Respirable Particulate Matter (PM10)	24 hours	50 ug/m ³	150 ug/m ³	Same as primary standard	May irritate eyes and respiratory tract, decreases in lung capacity, cancer and increased mortality. Produces haze and limits visibility.	Dust and fume-producing industrial and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g., wind-raised dust and ocean sprays).
	Annual Avg.	20 ug/m ³	---			
Fine Particulate Matter (PM2.5)	24 hours	---	35 ug/m ³	Same as primary standard	Increases respiratory disease, lung damage, cancer, and premature death. Reduces visibility and results in surface soiling.	Fuel combustion in motor vehicles, equipment, and industrial sources; residential and agricultural burning; Also, formed from photochemical reactions of other pollutants, including NO _x , sulfur oxides, and organics.
	Annual Avg.	12 ug/m ³	12 ug/m ³	15 ug/m ³		
Lead	Monthly Ave.	1.5 ug/m ³	---	---	Disturbs gastrointestinal system, and causes anemia, kidney disease, and neuromuscular and neurological dysfunction.	Present source: lead smelters, battery manufacturing & recycling facilities. Past source: combustion of leaded gasoline.
	Rolling 3-Month Ave.	---	0.15 ug/m ³	Same as primary standard		
Hydrogen Sulfide	1 hour	0.03 ppm	No National Standard		Nuisance odor (rotten egg smell), headache and breathing difficulties (higher concentrations)	Geothermal Power Plants, Petroleum Production and refining
Sulfates	24 hour	25 ug/m ³	No National Standard		Breathing difficulties, aggravates asthma, reduced visibility	Produced by the reaction in the air of SO ₂ .
Visibility Reducing Particles	8 hour	Extinction of 0.23/km; visibility of 10 miles or more	No National Standard		Reduces visibility, reduces airport safety, lowers real estate value, and discourages tourism.	See PM2.5.

NOTES:

ppm = parts per million; ug/m³ = micrograms per cubic meter.

a. National standards are divided into primary and secondary standards. Primary standards are intended to protect public health, whereas secondary standards are intended to protect public welfare and the environment.

SOURCES: California Air Resources Board, 2013. Ambient Air Quality Standards. Available: www.arb.ca.gov/research/aaqs/aaqs2.pdf. Standards last updated June 4, 2013;California Air Resources Board, 2009. ARB Fact Sheet: Air Pollution Sources, Effects and Control. Available: www.arb.ca.gov/research/health/fs/fs2/fs2.htm. Page last reviewed by CARB December 2009.

**TABLE 3.3-3.
PLAN AREA ATTAINMENT STATUS**

Pollutant	Designation/Classification	
	Federal Standards	State Standards
Ozone – one hour	No Federal Standard ¹	Nonattainment/Serious
Ozone – eight hour	Nonattainment/Severe	Nonattainment
PM10	Unclassified	Nonattainment
PM2.5	Nonattainment/Moderate	Attainment
CO	Unclassified/Attainment	Attainment
Nitrogen Dioxide	Unclassified/Attainment	Attainment
Sulfur Dioxide	Unclassified	Attainment
Lead	Unclassified/Attainment	Attainment
Hydrogen Sulfide	No Federal Standard	Unclassified
Sulfates	No Federal Standard	Attainment
Visibility Reducing Particles	No Federal Standard	Unclassified

NOTE:

1 Effective June 15, 2005, the U.S. Environmental Protection Agency (EPA) revoked the federal 1-hour ozone standard, including associated designations and classifications.

SOURCES: California Air Resources Board, 2014. *Area Designation Maps*. Available: www.arb.ca.gov/desig/adm/adm.htm. Page last reviewed August 22, 2014;
U.S. Environmental Protection Agency, 2015. *Green Book - Current Nonattainment Counties for All Criteria Pollutants*. January 30, 2015.

Area. In summary the Plan Area is nonattainment for the 8-hour ozone (Severe) and PM2.5 (Moderate) NAAQS and is either attainment or unclassified for the remaining criteria pollutants.

The FCAA required each state to prepare an air quality control plan referred to as the State Implementation Plan (SIP). The FCAAA added requirements for states containing areas that violate the NAAQS to revise their SIPs to incorporate additional control measures to reduce air pollution. The SIP is a living document that is periodically modified to reflect the latest emissions inventories, planning documents, and rules and regulations of air basins as reported by the agencies with jurisdiction over them. The U.S. EPA has responsibility to review all state SIPs to determine if they conform to the mandates of the FCAAA and will achieve air quality goals when implemented. If the U.S. EPA determines a SIP to be inadequate, it may prepare a Federal Implementation Plan (FIP) for the nonattainment area and may impose additional control measures. Failure to submit an approvable SIP or to implement the plan within mandated timeframes can result in sanctions being applied to transportation funding and stationary air pollution sources in the air basin.

Toxic Air Contaminants

TACs are regulated under both state and federal laws. Federal laws use the term “Hazardous Air Pollutants” (HAPs) to refer to the same types of compounds that are referred to as TACs under State law. Both terms encompass essentially the same compounds. The 1977 FCAAA required the

U.S. EPA to identify National Emission Standards for Hazardous Air Pollutants (NESHAPs) to protect public health and welfare. These substances 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 FCAA, 189 substances are regulated as HAPs.

State

Criteria Pollutants

Although the FCAA established the NAAQS, individual states retained the option to adopt more stringent standards and to include other pollution sources. California had already adopted its own air quality standards when federal standards were established, and because of the unique meteorology in California, there is considerable diversity between the state standards and NAAQS, as shown in Table 3.3-2. California ambient standards tend to be at least as protective as NAAQS and are often more stringent.

In 1988, California passed the California Clean Air Act (CCAA) (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 state ambient air quality standards rather than the federal standards. As indicated in Table 3.3-3, the Plan Area is nonattainment for the 1-hour ozone (Serious), 8-hour ozone, and PM10 California ambient air quality standards and is either attainment or unclassified for the remaining criteria pollutants. The CCAA requires each air district in which state air quality standards are exceeded to prepare a plan that documents reasonable progress towards attainment.

Toxic Air Contaminants

The California Health and Safety Code defines TACs as air pollutants which may cause or contribute to an increase in mortality or in serious illness, or which may pose a present or potential hazard to human health. The State Air Toxics Program was established in 1983 under Assembly Bill (AB) 1807 (Tanner). A total of 243 substances have been designated TACs under California law; they include the 189 (federal) HAPs adopted in accordance with AB 2728. The Air Toxics “Hot Spots” Information and Assessment Act of 1987 (AB 2588) seeks to identify and evaluate risk from air toxics sources; however, AB 2588 does not regulate air toxics emissions. Toxic air contaminant emissions from individual facilities are quantified and prioritized by CARB. “High-priority” facilities are required to perform a health risk assessment and, if specific thresholds are violated, are required to communicate the results to the public in the form of notices and public meetings.

In 2000, the CARB approved a comprehensive Diesel Risk Reduction Plan to reduce diesel emissions from both new and existing diesel-fueled vehicles and engines. The regulation is anticipated to result in an 80 percent decrease in statewide diesel health risk in 2020 as compared with the diesel risk in 2000. Additional regulations apply to new trucks and diesel fuel. Subsequent regulations of diesel emission by the CARB include the On-Road Heavy Duty Diesel Vehicle (In-Use) Regulation, the On-Road Heavy Duty (New) Vehicle Program, the In-Use

Offroad Diesel Vehicle Regulation, and the New Offroad Compression Ignition Diesel Engines and Equipment Program. All of these regulations and programs have timetables by which manufacturers must comply and existing operators must upgrade their diesel-powered equipment.

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*. 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.”⁹ 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.

Local

Placer County Air Pollution Control District

The 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 state air quality planning purposes, western Placer County is classified as a severe non-attainment area for ozone. 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

⁹ California Air Resources Board, 2005. *Air Quality and Land Use Handbook: A Community Health Perspective*. April 2005. p. 4.

measures must also be reviewed. The *Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan (2013 SIP Revisions)*,¹⁰ which addresses attainment of the federal 8-hour ozone standard, as well as the *2012 Triennial Progress Report*,¹¹ which addresses attainment of the state ozone standard, are the latest plans issued by the PCAPCD. The 2012 Triennial Progress Report, like the Ozone Attainment Plan, includes a current emission inventory and projected future inventories of ROG and NOx 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 2012 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 five percent per year reduction required by the CCAA.

PCAPCD Rules and Regulations

Appendices B and D of the PCAPCD *CEQA Air Quality Handbook*¹² 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 volatile organic compounds (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-

¹⁰ Placer County Air Pollution Control District, et al, 2013. Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan (2013 SIP Revisions). September 26, 2013.

¹¹ Placer County Air Pollution Control District, 2013. 2012 Triennial Progress Report. October 2013.

¹² Placer County Air Pollution Control District, 2012. CEQA Air Quality Handbook. October 2012.

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*.¹³ 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 to the PCAPCD's Off-Site Air Quality Mitigation Fund as a means to offset air quality impacts from their development. Projects funded by the PCAPCD's Off-Site Air Quality Mitigation Fund are determined at the discretion of the PCAPCD. Typically, funds are used to purchase cleaner on- and off-road vehicles for county projects or cleaner buses for schools.
- 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 offsite 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.

¹³ Ibid., Appendix H: 2001/2008 Air Quality Mitigation Funds Policy (Land Use).

- 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.

Toxic Air Contaminants

The PCAPCD is responsible for the control of toxic air contaminants 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 toxic air contaminants that would expose the local

population to a maximum individual cancer risk of 10 in one million. If so, a health risk assessment must 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 and/or limit its operations to ensure that this threshold is not exceeded. This would only apply to the Plan if TAC-producing stationary equipment were to be used at land uses to be developed.

City of Lincoln 2050 General Plan

The following goals and policies from the 2050 General Plan are relevant to air quality.

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.

Policies

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.

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.

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.

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.

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.

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.

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.

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

The relationship of these 2050 General Plan policies to the V5SP is included in Chapter 5, General Plan Consistency.

3.3.3 Analysis, Impacts, and Mitigation

Significance Criteria

According to Appendix G of the CEQA *Guidelines*, a project would have a significant effect on air quality if it would:

- Conflict with or obstruct implementation of the applicable air quality plan;
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation;
- Expose sensitive receptors to substantial pollutant concentrations;
- Result in a cumulatively considerable net increase of any criteria air pollutant for which the project region is in nonattainment under any applicable National or State ambient air quality standards (including releasing emissions that exceed quantitative standards for ozone precursors); or
- Create objectionable odors affecting a substantial number of people.

Criteria 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 PM₁₀. The PCAPCD's *CEQA Air Quality Handbook* includes the recommended significance thresholds as listed in **Table 3.3-4**, expressed in pounds per day (lbs/day), which serve as air quality standards in the evaluation of air quality impacts associated with development projects. In setting these thresholds, the PCAPCD considered both the health-based air quality standards as well as the attainment strategies developed in conjunction with the CARB and the U.S. EPA.¹⁴ The Plan Area is located within a PM_{2.5} nonattainment area. However, since PCAPCD has not established a PM_{2.5} threshold, this analysis uses the Sacramento Metropolitan Air Quality Management District's PM_{2.5} threshold.¹⁵

**TABLE 3.3-4.
PCAPCD-RECOMMENDED THRESHOLDS OF SIGNIFICANCE**

Pollutant	Construction/Operational Threshold (lbs/day)	Cumulative Threshold (lbs/day) ¹
ROG	82	10
NO _x	82	10
PM ₁₀	82	NA
PM _{2.5} ²	82	N/A

NOTES:

1. NA = not applicable
2. PCAPCD has not developed a PM_{2.5} threshold. The PM_{2.5} threshold shown in this table is based on the Sacramento Metropolitan Air Quality Management District's PM_{2.5} threshold.

SOURCE: Placer County Air Pollution Control District, 2012. *CEQA Air Quality Handbook*. October 2012.

According to the PCAPCD's *CEQA Air Quality Handbook*, PCAPCD recommends a criteria pollutant cumulative threshold of significance for land use projects of 10 pounds per day for ROG and NO_x for project operations. If a project is unable to mitigate emissions onsite to below 10 pounds per day for ROG or NO_x, PCAPCD recommends the project participate in the PCAPCD Offsite Mitigation Program. PCAPCD's Handbook does not recommend cumulative thresholds of significance for PM₁₀ emissions.

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, proposed projects that have the potential to expose the public to TACs

¹⁴ Ibid., p. 2-2.

¹⁵ Sacramento Metropolitan Air Quality Management District, 2015. SMAQMD Thresholds of Significance Table. Available: <http://www.airquality.org/ceqa/CH2ThresholdsTables5-2015.pdf>.

in excess of the following PCAPCD thresholds would be considered to have a significant air quality impact:

- Probability of contracting cancer for the Maximally Exposed Individual (MEI) exceeds 10 in one million people for 70 year exposure.
- Ground-level concentrations of non-carcinogenic TACs would exceed a Hazard Index¹⁶ greater than 1 for the MEI.

In addition, based on the programmatic nature of the Specific Plan, impacts associated with TACs will also be analyzed based on buffer zones between sensitive receptors and existing and proposed land uses that emit TACs in accordance with the recommendations provided in the *Air Quality and Land Use Handbook: A Community Health Perspective*.¹⁷

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.

Methodology and Assumptions

The analysis in this section focuses on the nature and magnitude of the change in ambient air quality due to construction and operation of the proposed project. Air pollutant emissions associated with the proposed project would result from construction activities, increased residential population, commercial uses, and increased traffic volumes.

The PCAPCD has worked cooperatively with other air districts in the Sacramento area to produce guidance for CEQA analyses (*CEQA Air Quality Handbook*). The document is designed to assist lead agencies in evaluating impacts to air quality from their proposed projects and recommends methods for use by lead agencies when making a determination of significance. The CEQA Guide establishes standards for three types of impacts:

- short-term impacts from construction,
- long-term impacts from project operation, and
- cumulative impacts.

¹⁶ Non-cancer adverse health risk, both for acute (short-term) and chronic (long-term) risk, is measured against a hazard index (HI), which is defined as the ratio of the predicted incremental exposure concentration from the proposed project to a published reference exposure level (REL) that could cause adverse health effects as established by Office of Environmental Health Hazard Assessment (OEHHA). The ratio (referred to as the Hazard Quotient [HQ]) of each non-carcinogenic substance that affects a certain organ system is added to produce an overall HI for that organ system.

¹⁷ California Air Resources Board, 2005. *Air Quality and Land Use Handbook: A Community Health Perspective*. April 2005. p. 4.

The PCAPCD has established its own numerical thresholds of significance. Emissions generated by these activities and other secondary sources have been estimated and compared to numerical thresholds of significance recommended by the PCAPCD. Generally, air quality impacts fall into two categories: short-term impacts due to construction, and long-term impacts due to operations. First, during construction (short-term), the Specific Plan would affect local particulate concentrations primarily due to fugitive dust sources and diesel exhaust. Under operations (long-term), the Specific Plan would result in an increase in emissions primarily due to motor vehicle trips and on-site stationary and area sources. Area sources include emissions from landscaping equipment, natural gas combustion exhaust from water and space heating, and the use of consumer products.¹⁸

Construction Impacts

Daily construction emissions were estimated using the California Emissions Estimator Model (CalEEMod) version 2013.2.2. Input assumptions were based on the unit and acreage values listed in Table 2-1 and in the phasing timeline shown in **Table 3.3-5**. The phasing of the project outlined in Table 3.3-5 is for air quality modeling purposes (adapted from the urban decay analysis) and does not necessarily reflect the actual sequence of construction activities. It should be noted that, unless otherwise stated, the air quality modeling assumes phasing of construction would be sequential. Construction emissions estimates also assumed straight-line growth for both Area A and Areas B through J. The modeling anticipates construction of Area A to occur first, and construction activity would last for seven years. Areas B through J could build out over a period of 18 years. The construction emissions modeling also assumes a cross-section of a typical construction vehicle fleet.

**TABLE 3.3-5.
VILLAGE 5 SPECIFIC PLAN – CONSTRUCTION TIMELINE ASSUMPTIONS**

Phase	Year	Land Uses	Total Acreage
Area A			
Phases 1 & 2	2017 to 2022	Elementary School, City Parks, Single-Family, and Strip Mall Land Uses	530.9
Phase 3	2022 to 2024	Office Park, Regional Shopping Center and Strip Mall Land Uses	103.1
Areas B through J			
Phase 4A	2024 to 2032	General Office Building, Office Park, Elementary School, High School, Junior High School, City Park, Multi-Family and Single-Family Land Uses	2,347.7
Phase 4B	2032 to 2042	Office Park, High School, Junior High School, Regional Shopping Center and Strip Mall Uses	219.3

SOURCE: The construction timeframe and incremental land use buildout presented in this table are based on assumptions found in ALH Urban & Regional Economics, 2015. Village 5 Specific Plan Area – Urban Decay Analysis. Prepared for Environmental Science Associates. April 2015. Table 2.

¹⁸ For industrial sources, emissions associated with motor vehicle trips and area sources are included in the emission estimates. Stationary source emissions produced by industrial sources are not included in the estimates because such emissions vary substantially by industrial source type, which are unknown at the master plan stage of development. The PCAPCD requires an air permit for stationary emission sources.

The construction analysis first describes daily emissions for the entire V5SP Area. The analysis then describes daily emissions for Area A only. Daily construction emissions were estimated for Area A (Phases 1, 2, and 3) and for Areas B through J (Phases 4A and 4B) of the Specific Plan based on information provided by the project applicant. Construction activities would vary from day to day and year to year, so the actual emission levels could be more or less than the estimated values. Nonetheless, the analysis presents the most likely emission estimates, given current knowledge of the project. Construction emissions were estimated for both unmitigated and mitigated conditions.

Appendix B contains the detailed CalEEMod modeling output.

Operational Impacts

Over the long-term, the project would result in an increase in emissions of ozone precursors (ROG and NO_x) and PM₁₀ primarily due to project related motor vehicle trips and onsite area and energy sources (e.g., natural gas combustion for space and water heating, landscape maintenance, use of consumer products such as hairsprays, deodorants, cleaning products).

In regard to operations, CalEEMod was also used to estimate area and stationary source emissions associated with the proposed land uses. In addition, for on-road vehicles, emissions were calculated using CalEEMod whereby default trip rates and trip lengths in the model were adjusted to match the vehicle miles traveled (VMT) data provided by Fehr & Peers for the Specific Plan. Operational emissions were assessed for buildout in the year 2035 (the furthest year included in the models). The factors used to estimate emissions from mobile sources are based on a particular year. That is, the emission factors used by the CalEEMod model vary by year, with emission factors decreasing over time. The reduction in the factors reflects the fact that lower-emitting vehicles replace higher-emitting vehicles over time, as well as other improvements in emissions-related technology. As a result, a project would have higher emissions estimates if 2010 factors were used in the model than if 2035 factors are used for the exact same project.

Additional information and model results are presented in Appendix B.

Localized CO Concentrations

CO concentration levels are highest near crowded or congested intersections where traffic is slow or idling. The proposed project would increase traffic volumes on surrounding roadways, possibly degrading the existing level of service (LOS) and increasing CO concentrations at nearby intersections. According to the PCAPCD, CO concentrations should be analyzed at intersections in the vicinity of a project if the LOS would be degraded from acceptable (i.e., A, B, C, or D) to unacceptable (i.e., E or F), or if a project would result in the addition of traffic that would substantially worsen (delay of 10 seconds or more) already unacceptable intersections.¹⁹

¹⁹ Placer County Air Pollution Control District, 2012. CEQA Air Quality Handbook. October 2012.

The CALINE4 dispersion model for predicting CO concentrations is the preferred method of estimating pollutant concentrations at sensitive receptors near congested roadways and intersections. For each intersection analyzed, CALINE4 adds roadway-specific CO emissions calculated from peak-hour turning volumes to the existing ambient CO air concentrations. For this analysis, CO concentrations were calculated based on a simplified CALINE4 screening procedure and CO emissions rates for Placer County from the Emissions Factors (EMFAC) 2014 model.²⁰ The simplified model is intended as a screening analysis in order to identify a potential CO hotspot. This methodology assumes worst-case conditions and provides a screening of maximum, worst-case CO concentrations. To ensure that an adequate margin of safety was used, the highest 1-hour and 8-hour CO readings from the Sacramento Valley Air Basin were used as the background concentration (since specific monitoring data for CO is not available from Placer County stations). The CO analysis used the full buildout traffic volumes to estimate CO impacts (see Appendix B for assumptions and analysis details).

Toxic Air Contaminants and Health Risk Assessment

A health risk assessment (HRA) was conducted to evaluate the cancer risks and non-cancer related health effects associated with exposure to TACs emitted as a result of the Specific Plan, and is included in Appendix B. Health risks from TACs are a function of the concentration of emissions and the duration of exposure. Cancer risks are evaluated based on 70-year exposure, whereas non-cancer health risks include adverse health effects from both acute (highest 1-hour) and chronic (average annual) exposure. The HRA methods are designed to estimate the highest possible, or “upper bound” risks to the most sensitive members of the population (i.e., children, elderly, infirm), as well as those that are potentially exposed to TACs on a routine and prolonged basis (i.e., residents). The results of the HRA are used in the analysis of TAC impacts. The HRA was conducted in accordance with technical guidelines developed by federal, state, and regional agencies, including California Environmental Protection Agency (CalEPA) and the California Office of Environmental Health Hazard Assessment (OEHHA) *Air Toxics Hot Spots Program Guidance*.²¹

The primary TACs during construction would be DPM from construction equipment exhaust. DPM exhaust is a complex mixture of thousands of gases and fine particles commonly known as soot. PCAPCD has not adopted a methodology for analyzing construction health risk impacts and has not recommended that health risk assessments be completed for construction-related emissions of TACs. The evaluation of TACs from construction is conducted qualitatively due to the short-term nature of construction in any one location, the distance of construction from the closest sensitive receptors, and the large area that construction would occur over the development of the Specific Plan (i.e., emissions generation would be spread out geographically over time, thus reducing exposure at any individual sensitive receptor).

²⁰ California Air Resources Board, 2014. Public Release of EMFAC2014. December 30, 2014.

²¹ California Office of Environmental Health Hazard Assessment, 2015. Air Toxics Hot Spots Program Guidance, February 2015.

In regard to long-term operations, although the Plan would not generate substantial quantities of TACs during operation, there is the potential that proposed residential receptors could be exposed to TACs generated by traffic on SR 65. The TAC of most concern is DPM from on-road diesel vehicles. Since SR 65 bisects the Plan Area, with sensitive receptors proposed within 500 feet of SR 65, a health risk analysis was conducted to examine whether DPM emissions would constitute a significant health risk. The MEI was assumed to be a proposed resident adjacent to SR 65. DPM represents a chronic (annual) and carcinogenic health risk.

According to CalEPA, a HRA should not be interpreted as actual expected rates of cancer or other potential health effects, but rather as estimates of potential risk or likelihood of adverse effects based on current knowledge, under a number of highly conservative assumptions and the best assessment tools currently available.

Odors

Odor analyses typically evaluate the potential for a proposed project to generate odors and for the proposed project to be affected by odors from nearby sources of odors. General land uses to be developed under the proposed project are not considered sources of substantial odors. Consequently, the focus of the odor analysis is on the potential for existing sources of odors to affect future occupants.

Potential odor impacts were evaluated by examining the distances from existing odor sources to residential receptors in the Plan Area. The analysis also considers existing odor complaints, prevailing wind direction, and policies designed to minimize odor impacts. Odor sources typically include industrial land uses, such as fiberglass manufacturing, coating operations, foundries, refineries, sewage treatment plants, landfills, and recycling facilities.

Impacts and Mitigation Measures

Impact 3.3-1: The proposed project would not conflict with or obstruct implementation of an applicable air quality plan.

Full Specific Plan and Area A

The PCAPCD and a number of other air districts in the SVAB developed the *Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan (2013 SIP Revisions)*²² (the Air Quality Management Plan or AQMP) to address attainment of the federal 8-hour ozone standard. Similarly, the *2015 Triennial Progress Report*²³ addresses attainment of the California 1-hour and 8-hour ozone standards. Projects in the SVAB could be considered to conflict with the AQMP if the emissions impact of the project would be greater than what was projected in the emissions inventories of the AQMP. The AQMP's emissions inventories are

²² Sacramento Metropolitan Air Quality Management District, et al, 2013. Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan (2013 SIP Revisions). September 26, 2013.

²³ Placer County Air Pollution Control District, 2015. 2015 Triennial Progress Report. October 2015.

developed based upon anticipated growth parameters such as population and housing, which are based upon local general plan zoning designations. The City of Lincoln General Plan is the applicable local general plan for the V5SP.

In general, a project would not interfere with the applicable air quality plan if it is consistent with growth assumptions used to form the applicable air quality plan and if the project implements all available and reasonably feasible air quality control measures. Air quality impacts are controlled through policies and provisions of the PCAPCD, the City of Lincoln General Plan, the AQMP, and the *2015 Triennial Progress Report*.

The PCAPCD's Recommended Operational Mitigation Measures include the following mitigation measures:

1. Prior to building permit approval, the applicant shall show, on the plans submitted to the Building Department, provisions for construction of new residences, and where natural gas is available, the installation of a gas outlet for use with outdoor cooking appliances, such as a gas barbecue or outdoor recreational fire pits.
2. As mitigation for air quality impacts, a bike lane is required for this project. Prior to approval of a Grading Permit, Improvement Plans, or Design Review approval, the applicant shall show that a Class 1, 2, or 3 bicycle lane(s) is provided in areas as approved by the Engineering Division and/or the Department of Public Works (or similar divisions within each jurisdiction), as defined elsewhere in these conditions of approval.
3. Wood burning appliances, including fireplaces and woodstoves, shall not be installed within any residential units associated with this project. Wording relating to this restriction shall be included within the project's CC&R's.
4. Prior to Design Review approval, the Site Plan shall show that the applicant has provided enough 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 Site Review Committee.
5. 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 5 minutes" shall be included with the submittal of building plans.
6. Prior to Design Review approval, the applicant shall show that on-site bicycle racks, as required by the District, shall be reviewed and approved by the Design Site Review Committee.

7. As required by the District, Landscape Plans submitted for Design Review shall include native drought-resistant species (plants, trees and bushes) in order to reduce the demand for irrigation and gas powered landscape maintenance equipment. In addition, a maximum of 25% lawn area will be allowed on site. As a part of the project design, the applicant shall include irrigation systems which efficiently utilize water (e.g., prohibit systems that apply water to non- vegetated surfaces and systems which create runoff). In addition, the applicant shall install water-efficient irrigation systems and devices, such as soil moisture-based irrigation controls, rain “shut off” valves, or other devices as reviewed and approved by the Design Site Review Committee.

The Plan Area, including Area A, is located in a low-density, predominantly agricultural area. As described in Section 3.13, Population, Employment, and Housing of this EIR, upon buildout of the Plan Area, including Area A, 8,206 housing units would be built, which would result in a projected population increase of 19,449 persons, as well as approximately 4,581,600 square feet of non-residential space would be constructed, accommodating 11,580 jobs. Implementation of the proposed Specific Plan, including Area A, would result in the development of thousands of housing units and millions of square feet of non-residential space, resulting in growth of residential population and employment within the Plan Area. The proposed V5SP proposes approximately 2,000 more housing units than that anticipated under the General Plan, resulting in more dense development, which can reduce air emissions. This denser development would not be inconsistent with the AQMP or the *2015 Triennial Progress Report*.

The Specific Plan site is designated in the City of Lincoln General Plan Land Use Diagram for the Lincoln V5SP and SUD-B. A portion of the Plan Area is within SUD-A to the north, but would be transferred to be within SUD-B. In addition, a portion of Village 6 in the southwest would also be transferred to the V5SP Area. The Lincoln General Plan Land Use Element further defines the mix of land use types for each specific plan village and special use district. All urban development under the SUD designation will be approved pursuant to an adopted specific plan. During the development of each specific plan, the “SUD” designation will be replaced with exact land use designations reflective of the mixed use concept. These designations will be established with the adoption of each specific plan and implemented with form based zoning classifications consistent with the specific plan. The V5SP Area would be annexed into the City such that the site would become part of the incorporated City boundaries and would also include pre-zoning of the site to be consistent with City designations, and adoption of the Specific Plan and a General Development Plan (GDP).

As described above, the proposed Specific Plan would not be inconsistent with the growth assumptions in the City of Lincoln General Plan, which in turn are consistent with the AQMP and PCAPCD’s *2015 Triennial Progress Report*. In addition, the proposed Specific Plan would implement all available and reasonably air control measures recommended by PCAPCD. Therefore, the proposed V5SP, including Area A, would not conflict with or obstruct implementation of the applicable air quality plan, and the impact would be **less than significant**.

Mitigation Measure

None required.

Impact 3.3-2: Construction of land uses under the proposed project could generate criteria pollutant emissions that could substantially contribute to a potential violation of applicable air quality standards or to nonattainment conditions.

Construction-related emissions arise from a variety of activities, including: (1) grading, excavation, road building, and other earth moving activities; (2) travel by construction equipment and employee vehicles, especially on unpaved surfaces; (3) exhaust from construction equipment, trucks, and worker vehicles; (4) architectural coatings; and (5) asphalt paving.

Construction-related fugitive dust emissions would vary from day to day, depending on the level and type of activity, silt content of the soil, and the weather. In the absence of mitigation, construction activities may result in significant quantities of dust, and as a result, local visibility and PM10 concentrations may be adversely affected on a temporary and intermittent basis. In addition, fugitive dust generated by construction would include not only PM10, but also larger particles, which would fall out of the atmosphere within several hundred feet of the site and could result in nuisance-type impacts.

Development under the proposed project is required to comply with all PCAPCD rules and regulations for construction, including the following, which shall be noted on City-approved construction plans:

- Rule 202 related to visible emissions;
- Rule 217 related to asphalt paving;
- Rule 218 related to architectural coatings;
- Rule 228 related to fugitive dust;
- Regulation 3 related to open burning.

The modeled worst-case construction schedule and phases for Area A and Areas B through J are presented in **Tables 3.3-6** and **3.3-7**, respectively. The yearly construction emissions of ROG, NOx and PM10 would be highly dependent on the type of construction activities that would occur onsite. For example, during onsite grading fugitive dust emissions (i.e., PM10) would be much higher than those emitted during architectural coating or building construction. Similarly, ROG emissions would be higher during the architectural coating phase when compared to onsite grading or building construction phases.

Projected emissions for construction of both Area A and Areas B through J of the Specific Plan are described below, followed by a separate discussion focusing only on Area A.

**TABLE 3.3-6.
VILLAGE 5 SPECIFIC PLAN – AREA A PHASING ASSUMPTIONS**

Phase/Activity	Approximate Duration (months)
Phase 1 & 2: 2017 - 2022	
Site Preparation	2
Grading	5
Building Construction/Architectural Coating	48
Paving	3
Phase 3: 2022 - 2024	
Site Preparation	1
Grading	2
Building Construction/Architectural Coating	19
Paving	1

SOURCE: The construction timeframe presented in this table are based on assumptions found in ALH Urban & Regional Economics, 2015. Village 5 Specific Plan Area – Urban Decay Analysis. Prepared for Environmental Science Associates. April 2015. Table 2

**TABLE 3.3-7.
VILLAGE 5 SPECIFIC PLAN – AREA B THROUGH J PHASING ASSUMPTIONS**

Phase/Activity	Approximate Duration (months)
Phase 4A: 2024-2032	
Site Preparation	3
Grading	8
Building Construction/Architectural Coating	76
Paving	5
Phase 4B: 2032-2042	
Site Preparation	4
Grading	10
Building Construction/Architectural Coating	95
Paving	7

SOURCE: The construction timeframe presented in this table are based on assumptions found in ALH Urban & Regional Economics, 2015. Village 5 Specific Plan Area – Urban Decay Analysis. Prepared for Environmental Science Associates. April 2015. Table 2

Full Specific Plan

Area A is expected to be constructed from 2017 through 2023 and future, Areas B through J of the Specific Plan are expected to be constructed from 2024 through 2041. Project-related construction phasing would consist of site preparation, grading, building and bridge construction, paving and architectural coating. The maximum daily construction emissions during each year of construction were estimated using the CalEEMod model. The modeled worst-case daily emissions of ROG, NO_x, PM₁₀, and PM_{2.5} associated with the construction of land uses are summarized in **Table 3.3-8** for each year of construction. Construction emissions estimates are anticipated to be

higher in the more immediate future and somewhat lower over time as construction vehicle fleets are replaced with newer equipment and as emissions reduction technology improved. In accordance with PCAPCD rules and regulations, all development would use only low-VOC paints (required to be manually selected within the CalEEMod model).

**TABLE 3.3-8.
VILLAGE 5 SPECIFIC PLAN – AREA A AND PROGRAMMATIC PHASES – MAXIMUM DAILY
CONSTRUCTION EMISSIONS**

Year of Construction	ROG (ppd)	NOx (ppd)	PM10 (ppd)	PM2.5 (ppd)
Area A				
Year 2017 – Area A				
Unmitigated	123	122	54	17
Exceed Threshold?	Yes	Yes	No	No
Mitigated	121	96	52	15
Exceed Threshold?	Yes	Yes	No	No
Year 2018 – Area A				
Unmitigated	121	109	54	16
Exceed Threshold?	Yes	Yes	No	No
Mitigated	118	86	52	15
Exceed Threshold?	Yes	Yes	No	No
Year 2019 – Area A				
Unmitigated	119	99	54	16
Exceed Threshold?	Yes	Yes	No	No
Mitigated	117	79	52	15
Exceed Threshold?	Yes	No	No	No
Year 2020 – Area A				
Unmitigated	118	87	53	16
Exceed Threshold?	Yes	Yes	No	No
Mitigated	116	69	52	15
Exceed Threshold?	Yes	No	No	No
Year 2021 – Area A				
Unmitigated	116	75	53	16
Exceed Threshold?	Yes	No	No	No
Mitigated	114	59	52	15
Exceed Threshold?	Yes	No	No	No
Year 2022 – Area A				
Unmitigated	33	38	27	12
Exceed Threshold?	No	No	No	No
Mitigated	32	18	12	5
Exceed Threshold?	No	No	No	No

**TABLE 3.3-8.
VILLAGE 5 SPECIFIC PLAN – AREA A AND PROGRAMMATIC PHASES – MAXIMUM DAILY
CONSTRUCTION EMISSIONS**

Year of Construction	ROG (ppd)	NOx (ppd)	PM10 (ppd)	PM2.5 (ppd)
Year 2023 – Area A				
Unmitigated	33	30	15	5
Exceed Threshold?	No	No	No	No
Mitigated	31	17	14	4
Exceed Threshold?	No	No	No	No
Year 2024 – Areas B through J				
Unmitigated	22	80	75	22
Exceed Threshold?	No	No	No	No
Mitigated	21	69	74	21
Exceed Threshold?	No	No	No	No
Year 2025 - Areas B through J				
Unmitigated	124	82	88	25
Exceed Threshold?	Yes	No	Yes	No
Mitigated	122	71	87	24
Exceed Threshold?	Yes	No	Yes	No
Year 2026 - Areas B through J				
Unmitigated	123	81	88	25
Exceed Threshold?	Yes	No	Yes	No
Mitigated	122	70	87	24
Exceed Threshold?	Yes	No	Yes	No
Year 2027 - Areas B through J				
Unmitigated	122	80	88	25
Exceed Threshold?	Yes	No	Yes	No
Mitigated	121	69	87	24
Exceed Threshold?	Yes	No	Yes	No
Year 2028 - Areas B through J				
Unmitigated	122	79	88	25
Exceed Threshold?	Yes	No	Yes	No
Mitigated	121	68	87	24
Exceed Threshold?	Yes	No	Yes	No
Year 2029 - Areas B through J				
Unmitigated	122	78	88	25
Exceed Threshold?	Yes	No	Yes	No
Mitigated	120	67	87	24
Exceed Threshold?	Yes	No	Yes	No

**TABLE 3.3-8.
VILLAGE 5 SPECIFIC PLAN – AREA A AND PROGRAMMATIC PHASES – MAXIMUM DAILY
CONSTRUCTION EMISSIONS**

Year of Construction	ROG (ppd)	NOx (ppd)	PM10 (ppd)	PM2.5 (ppd)
Year 2030 - Areas B through J				
Unmitigated	121	73	87	25
Exceed Threshold?	Yes	No	Yes	No
Mitigated	120	66	87	24
Exceed Threshold?	Yes	No	Yes	No
Year 2031 - Areas B through J				
Unmitigated	120	72	87	25
Exceed Threshold?	Yes	No	Yes	No
Mitigated	119	66	87	24
Exceed Threshold?	Yes	No	Yes	No
Year 2032 - Areas B through J				
Unmitigated	3	14	22	11
Exceed Threshold?	No	No	No	No
Mitigated	<1	3	9	5
Exceed Threshold?	No	No	No	No
Year 2033 - Areas B through J				
Unmitigated	19	35	30	9
Exceed Threshold?	No	No	No	No
Mitigated	18	29	30	8
Exceed Threshold?	No	No	No	No
Year 2034 - Areas B through J				
Unmitigated	19	35	29	9
Exceed Threshold?	No	No	No	No
Mitigated	18	29	30	8
Exceed Threshold?	No	No	No	No
Year 2035 - Areas B through J				
Unmitigated	19	34	30	8
Exceed Threshold?	No	No	No	No
Mitigated	18	29	30	8
Exceed Threshold?	No	No	No	No
Year 2036 - Areas B through J				
Unmitigated	12	8	25	6
Exceed Threshold?	No	No	No	No
Mitigated	11	2	25	6
Exceed Threshold?	No	No	No	No

**TABLE 3.3-8.
VILLAGE 5 SPECIFIC PLAN – AREA A AND PROGRAMMATIC PHASES – MAXIMUM DAILY
CONSTRUCTION EMISSIONS**

Year of Construction	ROG (ppd)	NOx (ppd)	PM10 (ppd)	PM2.5 (ppd)
Year 2037 - Areas B through J				
Unmitigated	12	8	25	6
Exceed Threshold?	No	No	No	No
Mitigated	11	2	25	6
Exceed Threshold?	No	No	No	No
Year 2038 - Areas B through J				
Unmitigated	12	8	25	6
Exceed Threshold?	No	No	No	No
Mitigated	11	2	25	6
Exceed Threshold?	No	No	No	No
Year 2039 - Areas B through J				
Unmitigated	12	8	25	6
Exceed Threshold?	No	No	No	No
Mitigated	11	2	25	6
Exceed Threshold?	No	No	No	No
Year 2040 - Areas B through J				
Unmitigated	12	8	25	6
Exceed Threshold?	No	No	No	No
Mitigated	11	2	19	6
Exceed Threshold?	No	No	No	No
Year 2041- Area A through J				
Unmitigated	2	4	<1	<1
Exceed Threshold?	No	No	No	No
Mitigated	1	1	<1	<1
Exceed Threshold?	No	No	No	No

NOTES:

1. Assumes worst-case daily emissions based on the CalEEMod 2013.2.2 model and the methodology described above. See Appendix B for model outputs and additional details.
2. Mitigated emissions are based on implementation of Mitigation Measure 3.3-2, which includes on-site fugitive dust control, as well as a requirement that all off-road equipment meet Tier 4 emission standards. Low-VOC paints are required per PCAPCD rules and regulations and are not included as mitigation for ROG emissions.

SOURCE: ESA, 2015

Emissions of ROG and NOx are estimated to exceed the thresholds during several years of construction. Construction activities would vary from day to day and year to year, so the actual emission levels could be higher or lower than those shown in Table 3.3-8. The estimates in Table 3.3-8 show the most likely emission estimates, given current knowledge of the project, but the construction activity could be more or less intense than assumed for this analysis and emissions for any particular year could be higher than that depicted here. Since ROG and/or NOx

emissions would exceed PCAPCD's significance thresholds, this is considered a **potentially significant** impact.

Area A

Area A of the Specific Plan is expected to be constructed from 2017 through 2023. Project-related construction phasing would consist of site preparation, grading, building and bridge construction, paving and architectural coating. The maximum daily construction emissions for development of Area A during each year of construction were estimated using the CalEEMod model, which is designed to model construction emissions for land use development projects based on building size, land use and type, and disturbed acreage, and allows for input of project-specific information. Project-generated emissions of criteria air pollutants were modeled based on project-specific information as well as model defaults. The PCAPCD thresholds of significance for construction are 82 lbs/day for ROG, NO_x, PM₁₀ and PM_{2.5}. The modeled worst-case daily emissions of ROG, NO_x, PM₁₀ and PM_{2.5} associated with the construction of land uses within Area A are summarized in Table 3.3-8 for each year of construction. In accordance with PCAPCD rules and regulations, all development would use only low-VOC paints (required to be manually selected within the model).

As shown in Table 3.3-8, Area A construction emissions of ROG and/or NO_x would exceed the thresholds during six of the seven years of Area A construction. Construction activities would vary from day to day and year to year, so the actual emission levels could be greater or less than those shown in Table 3.3-8. Nonetheless, the estimates in Table 3.3-8 show the most likely emission estimates, given current knowledge of the project. Exceedance of established air emissions thresholds is considered a **potentially significant** impact.

Mitigation Measures

Mitigation Measure 3.3-2 (Full Specific Plan and Area A)

The applicant(s) shall implement the following mitigation measures for each phase of development in the time frames provided:

- a) *Prior to approval of grading or improvement plans, (whichever occurs first), on project sites greater than one acre, the applicant shall submit a Construction Emission/Dust Control Plan to the Placer County Air Pollution Control District. If the District does not respond within twenty (20) days of the plan being accepted as complete, the plan shall be considered approved. The applicant shall provide written evidence to the City of Lincoln that the plan has been submitted to the District. It is the responsibility of the applicant to deliver the approved plan to the local jurisdiction. The applicant shall not break ground prior to receiving District approval of the Construction Emission/Dust Control Plan or the expiration of the 20 days referenced above, and delivering that approval to the City of Lincoln. The*

Construction Emission/Dust Control Plan shall include, but not be limited, to the following measures:

- i. 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 APCD rules and City of Lincoln requirements.*
 - ii. 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, certified by CARB to perform Visible Emissions Evaluations (VEE), who shall routinely evaluate compliance to Rule 228, Fugitive Dust on a weekly basis.*
 - iii. The track-out of bulk material onto public paved roadways as a result of operations, or erosion, shall be minimized by the use of track-out and erosion control, minimization, and preventative measures. Specifically, the prime contractor shall apply water or use other methods to control dust track out so construction vehicles leaving the site shall reduce dust, silt, mud, and dirt from being released or tracked off-site. Also, the prime contractor “wet broom” the streets (or use another method to control dust as approved by the City) if silt, dirt, mud or debris is carried over to adjacent public thoroughfares within one hour from adjacent streets anytime such material track-out extends for a cumulative distance of greater than 50 feet onto any paved public road during active operations.*
 - iv. Traffic speeds on all unpaved surfaces shall be limited to 15 miles per hour or less.*
 - v. 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.
 - vii. Stockpiles of dirt shall be covered when not being used or otherwise controlled to prevent erosion and/or dust.*
- b) The prime contractor shall submit to the District a comprehensive inventory (i.e., make, model, year, emission rating) of all the heavy-duty off-road equipment (50*

horsepower or greater) that will be used an aggregate of 40 or more hours for the construction project. If any new equipment is added after submission of the inventory, the prime contractor shall contact the District prior to the new equipment being utilized. At least three business days prior to the use of subject heavy-duty off-road equipment, the project representative shall provide the District with the anticipated construction timeline, including start date, name, and phone number of the property owner, project manager, and on-site foreman.

Prior to approval of grading or improvement plans, (whichever occurs first), the applicant(s) shall provide a written calculation to the District for approval demonstrating that the heavy-duty (> 50 horsepower) off-road vehicles to be used in the construction project, including owned, leased and subcontractor vehicles, will meet Tier 4 emission standards. If Tier 4 equipment is unavailable for any equipment type, the prime contractor shall notify the PCAPCD that Tier 3 off-road equipment will be utilized.

- c) During construction, the contractor shall utilize existing power sources (e.g., electricity) or clean fuel (e.g., propane, gasoline, biodiesel, and/or natural gas) generators rather than temporary diesel power generators, to the degree feasible.*
- d) During construction, the contractor shall minimize idling time to a maximum of 5 minutes for all diesel-powered equipment.*
- e) Signs shall be posted in the designated queuing areas of the construction site to limit idling to a maximum of 5 minutes.*
- f) No open burning of removed vegetation shall be allowed unless permitted by the PCAPCD. All removed vegetation material shall either be chipped on site or taken to an appropriate recycling site, or if a recycling site is not available, a licensed disposal site.*
- g) A person shall not discharge into the atmosphere volatile organic compounds (VOC's) caused by the use or manufacture of Cutback or Emulsified asphalts for paving, road construction or road maintenance, unless such manufacture or use complies with the provisions of Rule 217.*
- h) Maintain all construction equipment in proper working condition according to manufacturer's specifications. The equipment must be checked by a certified mechanic and determine to be running in proper condition before it is operated.*

Impact Significance after Mitigation: Implementation of the mitigation measures listed above would reduce the predicted level of emissions for construction of the V5SP and for Area A. Although many of the dust mitigation measures are good housekeeping measures that cannot be

quantified, the application of water (Mitigation Measure 3.3-2(a)) would reduce PM10 and PM2.5 fugitive dust emissions by 55 percent. Also, Mitigation Measure 3.3-2(b) would reduce exhaust emissions of NOx and PM10 although levels of ROG and NOx would still exceed the PCAPCD thresholds during any particular year in which construction would occur, as shown in Table 3.3-8. Mitigation Measure 3.3-2(b) would reduce NOx emissions during the early years of the project (primarily during Area A construction) because the mitigated emission estimates assume an off-road construction fleet composed entirely of Tier 4 equipment throughout the 25 year construction period of the V5SP and throughout the seven-year construction period of Area A. However, even with these mitigation measures, NOx emissions would exceed PCAPCD levels during the first three years of Area A development. In addition, ROG emissions associated with the application of architectural coatings cannot be reduced to less than significant levels. This impact would therefore be **significant and unavoidable**.

Impact 3.3-3: Operational activities associated with development under the proposed project would result in emissions of criteria air pollutants at levels that would substantially contribute to a potential violation of applicable air quality standards or to nonattainment conditions.

Full Specific Plan

Over the long-term, the proposed project would increase emissions of ozone precursors, ROG and NOx, PM10, and PM2.5 primarily due to project-related motor vehicle trips and onsite area and energy sources (e.g., natural gas combustion for space and water heating, landscape maintenance, use of consumer products such as hairsprays, deodorants, cleaning products). Operational emissions for build-out of the Specific Plan were quantified using CalEEMod 2013.2.2, and are presented in **Table 3.3-9** below. Based on the estimates shown in Table 3.3-9, the Specific Plan's criteria pollutant contribution to regional air quality would be above the significance thresholds specified by the PCAPCD for ROG, NOx, PM10 and PM2.5 and would, therefore, be considered **potentially significant**.

Many key emission reduction measures suggested by the PCAPCD as potential operational mitigation measures are already included in the Specific Plan emissions modeling based on the proposed design and location of the site. The Specific Plan land use design, roadway system, and mobility network were developed in accordance with smart growth principles. According to Fehr & Peers, the EIR transportation consultant, mixed-use developments, such as Village 5, provide an opportunity for people to live, work, shop, and find recreation opportunities within one community. This allows people to travel shorter distances between their origins and destinations.

These shorter travel distances reduce vehicle trip lengths and make walking and bicycling more viable options of travel. Furthermore, the addition of retail, office, and commercial uses in the Plan Area would provide services and employment opportunities closer to residents of Lincoln,

**TABLE 3.3-9.
SPECIFIC PLAN OPERATIONAL EMISSIONS (POUNDS PER DAY)**

Pollutant	PCAPCD Thresholds (lbs/day)	Year 2035 Build-out Operation Emissions (lbs/day) ^{1,2,3}				Significant (Yes or No)?
		Area Sources	Energy Sources	Mobile Sources	Total Emissions	
ROG	82	755	7	300	1,062	Yes
NOx	82	114	58	276	448	Yes
PM10	82	14	5	432	451	Yes
PM2.5	82	14	5	122	141	Yes

NOTES:

1. Specific Plan operational emissions estimates for summertime conditions were made using CalEEMod 2013.2.2. See Appendix B for details.
2. Several adjustments were made to the CalEEMod default assumptions that were not considered mitigation. The default trip rates and lengths were adjusted to match the traffic data provided by Fehr & Peers. In addition, the Title 24 electricity and natural gas energy intensity factors were updated to account for the 2013 Title 24 standards.
3. Only gas and propane fireplaces were assumed (per Mitigation Measure 3.3-3(a)).

SOURCE: ESA, 2015

who would otherwise have to travel longer distances to other communities for these services and jobs.²⁴ Consequently, these factors were already incorporated into the transportation modeling and analysis. In addition, according to the Specific Plan, the Plan Area roadways are designed to accommodate Neighborhood Electric Vehicles (NEVs) and include the designation of carpool/vanpool/rideshare spaces.

Other building-specific strategies and design elements are also described in the Specific Plan, though the degree of implementation and associated emissions reductions are not known at this time. These strategies include:

- Low emitting products for furnaces and air conditioners and photovoltaic systems are encouraged for residential and commercial uses.
- Coordinated tree plantings and building orientation may also be used to reduce heating and cooling requirements.
- The use of drought-resistant native species for landscaping would reduce the demand for irrigation. Programs that recommend the use of electric landscaping equipment may also reduce the use of gas powered landscape maintenance equipment.
- All new buildings constructed in the Plan Area will feature smart energy meters, solar hot water heaters, Energy Star appliances and be “solar- ready”.
- Shopping centers, office complexes, parks and public places will have preferentially located parking spaces and charging stations for NEVs.

²⁴ Fehr & Peers, 2015. Village 5 Specific Plan EIR – Vehicle Miles Traveled Data and Analysis. April 29, 2015.

While the design features described above would help reduce operational emissions, they would not reduce emissions below the PCAPCD thresholds of significance. Long-term operational emissions of criteria pollutants would be considered a **potentially significant** impact.

Area A

Operation of Area A would increase emissions of ozone precursors, ROG and NO_x, PM₁₀ and PM_{2.5} primarily due to project related motor vehicle trips and onsite area and energy sources (e.g., natural gas combustion for space and water heating, landscape maintenance, use of consumer products such as hairsprays, deodorants, cleaning products). Operational emissions for build out of Area A were quantified using CalEEMod 2013.2.2 and are presented in **Table 3.3-10** below. Based on the estimates shown in Table 3.3-10, Area A's contribution of criteria pollutants to regional air quality would exceed the significance thresholds specified by the PCAPCD for ROG, NO_x, and PM₁₀ and would be considered a **potentially significant** impact.

**TABLE 3.3-10.
AREA A OPERATIONAL EMISSIONS (POUNDS PER DAY)**

Pollutant	PCAPCD Thresholds (lbs/day)	Year 2025 Build-out Operation Emissions (lbs/day) ^{1,2,3}				Significant (Yes or No)?
		Area Sources	Energy Sources	Mobile Sources	Total Emissions	
ROG	82	196	2	95	293	Yes
NO _x	82	58	16	90	164	Yes
PM ₁₀	82	6	1	110	117	Yes
PM _{2.5}	82	6	1	31	38	No

NOTES:

1. Specific Plan operational emissions estimates for summertime conditions were made using CalEEMod 2013.2.2. See Appendix B for details.
2. Several adjustments were made to the CalEEMod default assumptions that were not considered mitigation. The default trip rates and lengths were adjusted to match the traffic data provided by Fehr & Peers. In addition, the Title 24 electricity and natural gas energy intensity factors were updated to account for the 2013 Title 24 standards.
3. Only gas and propane fireplaces were assumed per PCAPCD guidelines.

SOURCE: ESA, 2015

Mitigation Measures

Mitigation Measure 3.3-3 (Full Specific Plan and Area A)

To reduce operational emissions of ROG, NO_x, PM₁₀, and PM_{2.5}, the following PCAPCD Standard Operational Air Quality Mitigation Measures shall be implemented as part of the project's final design:

- a) 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.

- b) 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.*
- c) Prior to Design Review approval, the applicant shall show that on-site bicycle racks will be provided as required by the District.*

Impact Significance after Mitigation: Mitigation Measure 3.3-3 would reduce the proposed project's net contribution of ozone precursors (i.e., ROG and NOx) and PM10 by encouraging employees to carpool/vanpool/ride share, restricting idling times at onsite truck loading and unloading areas to five minutes and installing onsite bicycle racks. These mitigation measures would reduce mobile emissions of ROG, NOx, PM10, and PM2.5, but the reduction would not reduce these emissions to below the PCAPCD's significance threshold. This impact would, therefore, be considered **significant and unavoidable**.

The main health concern of exposure to ground-level ozone, for which ROG and NOx are ozone precursors, is effects on the respiratory system, especially on lung function. PM10 particles are fine enough to be inhaled into the deepest parts of the human lung and can cause adverse health effects. Ozone causes eye irritation, airway constriction, and shortness of breath and can aggravate existing respiratory diseases such as asthma, bronchitis, and emphysema. PM10 can result in increased respiratory disease, lung damage, cancer, and premature death.²⁵

Air quality standards are expressed in terms of a maximum pollutant concentration in the atmosphere and are established to address a cumulative, regional problem. It is impossible to predict with reliable certainty the magnitude of localized health effects from the project's exceedance of regional emissions criteria for many reasons. First, the volume of air contained in a regional air basin is immense, and even the largest project's emissions constitute the proverbial "drop in the bucket." In addition, the increase in emissions associated with the proposed project represents only a fraction of total SVAB regional ROG and NOx emissions (0.53 tons of ROG and 0.23 tons of NOx per day compared to 16 tons of ROG and 15 tons of NOx per day in Placer County in 2012).²⁶ There are also a large number of variables and unpredictable factors that influence the effects of a specific project's emissions on human health, including the volume of air available for dilution, the temperature, and the intensity of ultraviolet light. Because of these

²⁵ California Air Resources Board, 2009. ARB Fact Sheet: Air Pollution Sources, Effects and Control. Available: www.arb.ca.gov/research/health/fs/fs2/fs2.htm. Page last reviewed by CARB December 2009.

²⁶ California Air Resources Board, 2014. The California Almanac of Emissions and Air Quality – 2013 Edition. Available: www.arb.ca.gov/aqd/almanac/almanac13/almanac13.htm, page last reviewed May 21, 2014.

variables, the effect of the project's specific emissions on human health cannot be modeled with any degree of certainty.

Table 3.3-1 shows that the most stringent applicable ozone standards have already been exceeded at the nearest monitoring stations between 2011 and 2013. Development under the V5SP and Area A would result in ROG, NO_x and PM₁₀ increases that could contribute to air quality violations in the SVAB region by contributing to more days of ozone and PM₁₀ exceedance or result in Air Quality Index value levels that are unhealthy for sensitive groups and other populations. But, an analysis attempting to take "tons per year" regional mass emissions data and directly translate that into precise pollutant concentrations, and hence project-specific health effects, would not be practical or meaningful, and is not feasible under CEQA.

Impact 3.3-4: Traffic associated with development under the proposed project could result in exposure of persons to substantial localized carbon monoxide concentrations.

Full Specific Plan

CO is a localized pollutant of concern. Cumulative traffic, including that generated by the Specific Plan was analyzed to determine its potential to affect CO concentrations along surface streets and at sensitive receptors in the area. The modeling method included background CO concentration levels obtained from the North Highlands Monitoring station, and traffic projections prepared for the project at the most affected streets (SR 65, Nelson Land, Fiddymont Road, and Pleasant Grove Boulevard) assuming receptors could be adjacent to the intersections. As these potential receptors would be the affected by the greatest volumes of traffic, it was assumed that if CO concentrations on these roadway segments would not exceed the ambient air quality standards, then the Plan's impact at other receptors affected by project operational traffic would be less than significant.

As shown in **Table 3.3-11**, the analysis demonstrated that no exceedances of the CO one or eight hour standard would occur under the cumulative plus project scenario for any of the receptors located close to the roadways. Thus, the Specific Plan would have a **less than significant** project-level and cumulative impact on local CO concentrations.

Area A

Roadway volumes in Area A would be less than traffic volumes generated by the Full Specific Plan. Therefore, it can also be inferred that CO concentrations generated by Area A would also be less than under the V5SP. Since buildout of the Specific Plan would not exceed the CO significance threshold, development of Area A would also not exceed the CO significance threshold. Therefore, development of Area A would not expose people to substantial localized CO concentrations, and the impact would be **less than significant**.

**TABLE 3.3-11.
ESTIMATED CARBON MONOXIDE CONCENTRATIONS**

Receptor Location ^a	Averaging Time (hours)	Concentrations (ppm)			Significant? (Yes or No)
		State Standard	Ambient Concentration ^b	Cumulative plus Project ^c	
Fiddymt/Pleasant Grove Blvd	1	20	2.34	4.6	No
	8	9	1.87	3.68	No
SR65/Nelson Ln	1	20	2.34	4.5	No
	8	9	1.87	3.6	No

NOTES:

- a Since these receptors are located along the most affected roadways by cumulative traffic, other receptors in the vicinity would experience lower CO concentrations and the impact would also be less than significant.
- b Existing concentrations are based on highest monitored 8-hour value at the North Highlands station.
- c Estimated concentrations relate to receptor locations adjacent to the specified intersections and incorporates the existing ambient concentrations of CO. The CO analysis focuses on the peak-hour traffic congestion at worse-case meteorological conditions. Conversion between 1-hour and 8-hour concentrations based on persistence factor of 0.8.

SOURCE: ESA, 2015

Mitigation Measure

None required.

Impact 3.3-5: Development under the proposed project would locate sensitive residential receptors in close proximity to SR 65, which would result in the exposure of persons to substantial toxic air contaminant concentrations.

Full Specific Plan and Area A

Construction

TAC emissions from construction activities are primarily the result of diesel particulate emissions from heavy-duty off-road equipment. 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 TACs over a 70-year lifetime would contract cancer, based on the use of standard risk-assessment methodology. The V5SP would result in short-term, intermittent phased construction activities and would not result in a long-term (i.e., 70 years) substantial source of TAC emissions. Consequently, construction-related TAC emissions would be a **less-than-significant impact**.

Operation

On-Site Operational Permitted Stationary Source Emissions. Long-term operation of Specific Plan land uses could include the development of stationary sources that emit TACs. According to

PCAPCD,²⁷ common stationary source types of TAC emissions include gasoline stations, dry cleaners, and diesel backup generators that are subject to District permit requirements. According to CARB's Air Quality and Land Use Hand Book, the recommend siting distance between a gasoline station or dry cleaners and a sensitive receptor is 300 feet.²⁸ However, any onsite stationary sources that may emit TACs would be subject to PCAPCD's permitting and Toxics Best Available Control Technology (T-BACT) requirements. According to PCAPCD Rule 513, T-BACT is defined as the most effective emissions limitation or control technique which: (1) has been achieved in practice for such permit unit category or class of sources; (2) is any other emissions limitation or control technique, including process and equipment changes of basic and control equipment, found by the Air Pollution Control Officer to be technologically feasible for such a category or class of sources, or for a specific source. PCAPCD would assess such sources for potential health risk impacts based on their potential to emit TACs. If it is determined that the sources would be considered a major source of TACs or HAPs,²⁹ T-BACT would be implemented to reduce emissions (such as through process changes or control equipment incorporation) to ensure a level of control that, at a minimum, is no less stringent than new source maximum achievable control technology (MACT). If the implementation of T-BACT would achieve the required level of control, then PCAPCD would deny the required permit. As a result, impacts associated with exposure of sensitive receptors to substantial toxic air emissions from stationary source operations would be **less than significant**.

On-Site Operational Mobile Source Emissions. On-site mobile sources of TAC emissions would primarily be associated with the operation of school buses transporting students to and from the proposed schools, farming vehicles used at the Lincoln High School (LHS) Farm, the vehicle and equipment repair shop within the LHS Farm site, transit buses, and diesel-fueled delivery trucks associated with proposed on-site commercial activities.

Emissions from buses can vary depending on various factors, including bus type, age, and maintenance, and the amount of time spent idling. Generally, children are more vulnerable than adults to air pollutants because of their higher inhalation rates, narrower airways, and less mature immune systems. In response to this concern, CARB adopted an Airborne Toxic Control Measure (ATCM) as part of the *Particulate Matter Risk Reduction Plan* specifically to deal with diesel emissions from school buses. This measure became effective July 16, 2003. The school bus-idling ATCM includes the following requirements:

²⁷ Placer County Air Pollution Control District, 2012. CEQA Air Quality Handbook, Chapter 4. Available: <https://www.placer.ca.gov/departments/air/landuseceqa>. Accessed on February 26, 2016.

²⁸ California Air Resources Board, 2005. Air Quality and Land Use handbook: A Community Health Perspective. April 2005.

²⁹ Major source of HAPs (or TACs): Any stationary source or group of stationary sources located within a contiguous area and under common control that emits or has the potential to emit considering controls, in the aggregate, 10 tons per year or more of hazardous air pollutants or 25 tons per year or more of any combination of hazardous air pollutants (per PCAPCD Rule 513).

- The driver of a school bus or vehicle, transit bus, or heavy-duty vehicle (other than a bus) shall manually turn off the bus or vehicle upon arriving at a school and shall restart no more than 30 seconds before departing. A driver of a school bus or vehicle shall be subject to the same requirement when operating within 100 feet of a school and shall be prohibited from idling more than 5 minutes at each stop beyond schools, such as parking or maintenance facilities, school bus stops, or school activity destinations. A driver of a transit bus or heavy duty vehicle (other than a bus) shall be prohibited from idling more than 5 minutes at each stop within 100 feet of a school. Idling necessary for health, safety, or operational concerns shall be exempt from these restrictions.
- The motor carrier of the affected bus or vehicle shall ensure that drivers are informed of the idling requirements, track complaints and enforcement actions, and keep track of driver education and tracking activities.

Implementation of the above requirements by the applicable school district would eliminate unnecessary idling for school buses and other heavy-duty vehicles, thus reducing localized exposure to emissions of TACs and other harmful pollutants at and near schools and protecting children from unhealthy exhaust emissions.

In addition to the school bus–idling ATCM, CARB has adopted an idling-restriction ATCM for large commercial diesel-powered vehicles. In accordance with this measure, which became effective February 1, 2005, affected vehicles are required to limit idling to no longer than 5 minutes under most circumstances. Since the proposed onsite commercial land uses would comply with CARB’s adopted ATCM as part of the *Particulate Matter Risk Reduction Plan*, exposure of nearby on-site receptors to mobile-source TACs associated with commercial activities is considered a **less-than-significant impact**.

Land Use Compatibility. The Specific Plan would include proposed residences, schools, and parks. Because of the sensitivity of such uses, an assessment of compatibility with surrounding land uses with respect to TAC emissions is provided below.

The *Air Quality and Land Use Handbook: A Community Health Perspective*,³⁰ which is advisory rather than regulatory, includes the following recommendations that may apply to the project:

- Avoid siting new sensitive land uses within 500 feet of a freeway, urban roads carrying 100,000 vehicles per day, or rural roads with 50,000 vehicles per day.
- Avoid siting new sensitive land uses within 300 feet of a large gasoline station (defined as a facility with a throughput of 3.6 million gallons per year or greater). A 50-foot separation is recommended for typical gasoline-dispensing facilities.
- Avoid siting new sensitive land uses within 300 feet of any dry-cleaning operation using perchloroethylene. For operations with two or more machines, provide 500 feet. For

³⁰ California Air Resources Board, 2005. *Air Quality and Land Use Handbook: A Community Health Perspective*. April 2005. p. 4.

operations with three or more machines, consult the local air district. Do not site new sensitive land uses in the same building with dry-cleaning operations that use perchloroethylene.

- Obtain facility-specific information where there are questions about siting a sensitive land use close to an industrial facility, including the amount of pollutant emitted and its toxicity, distance to nearby receptors, and types of emissions controls in place.

In regard to long-term operations, since SR 65 bisects the Plan Area, with sensitive receptors proposed within 500 feet of SR 65, a health risk analysis was conducted to examine whether DPM emissions would constitute a significant health risk. The MEI would include proposed residences adjacent to SR 65. DPM represents a chronic (annual) and carcinogenic health risk. The diesel truck proportion of the 24,450 total average daily traffic (ADT) for Cumulative plus Project scenario provided by Fehr & Peers for SR 65 (Wise Rd to Nelson Ln) was determined and categorized based on the Caltrans 2013 annual ADT for SR 65 in Roseville, with emissions for the roadway segment based on EMFAC2014 emission factors. CARB meteorological data for the Roseville station and a sensitive receptor grid was incorporated into the ISCST3 dispersion model to estimate maximum downwind concentrations at various distances from SR 65. These concentrations were used in conjunction with new age-sensitivity factors and daily breathing rates recommended by OEHHA (2015) to determine health risk. This approach provides updated calculation procedures factor in the increased susceptibility of infants and children to carcinogens as compared to adults. Results of the health risk assessment are described in Appendix K and summarized in **Table 3.3-12** below.

**TABLE 3.3-12.
SR 65-RELATED HEALTH IMPACTS FOR ON-SITE RECEPTORS^a**

Residence Location – Distance to SR 65	Cancer Risk (persons per million)	Significant? ^b	Chronic Risk (HI)	Significant? ^c
0 feet	10.8	Yes	0.0003	No
100 feet	9.8	No	0.0002	No
200 feet	7.9	No	0.0002	No
300 feet	6.2	No	0.0002	No
400 feet	5.0	No	0.0001	No
500 feet	4.2	No	0.0001	No
600 feet	3.7	No	0.00009	No
700 feet	3.2	No	0.00008	No
800 feet	2.9	No	0.00007	No
900 feet	2.6	No	0.00006	No
1,000 feet	2.4	No	0.00006	No

NOTES:

^a Detailed assumptions and methodology of the health risk assessment are included in Appendix B.

^b Considered significant if cancer risk exceeds 10 persons in a million.

^c Considered significant if chronic risk hazard index exceeds 1.

SOURCE: ESA, 2015

In Area A, an outdoor Regional Sports Park (including 12 soccer fields, 2 training fields, a neighborhood park, walking trails, and more) is proposed at the north end, abutting the southern right of way for SR 65. A Village Commercial Center would be located just to the east of the Regional Sports Park abutting the southern right of way for SR 65. Uses permitted within the Village Commercial (VCOMM) designation could include daycares and medical facilities. These areas would site sensitive land uses along the SR 65 corridor. However, unlike residential uses, where people often live a majority of their lives, the use of the Regional Sports Park and the commercial facilities along SR 65 would not be used by the same individuals for more than a few hours at a time. Accordingly, while one or two of the soccer fields at the Regional Sports Park would be sited within 200 feet of the SR 65 right of way, the users of the park would not be present for a substantial amount of time. In addition, the cancer risks at distances greater than 100 feet from the edge of SR 65 are less than 10 per million. Similarly, the users of the daycare and medical offices that could be placed in the VCOMM area would be located mostly indoors and any outdoor activities would not exceed more than a few hours each day. Moreover, children in daycare are there only a maximum of five days per week and for a maximum of a few years until they start school. Accordingly, the children and elderly who might attend either daycares or medical offices in the VCOMM area would have significantly less exposure to any types of DPM from SR 65 even if such uses were located within 200 feet of the SR 65 right of way. Thus, even though a small portion of these uses would be located within 200 feet of SR 65, because the exposure time for the users of the Regional Park and VCOMM areas would have substantially lower exposure to the DPM from SR 65, this would be considered a **less-than-significant impact**.

Areas B, E and F would locate residential land uses within 200 feet of SR 65. Specifically, Area B proposes low-density residential housing up against SR 65 and Areas E and F would include medium density residential land use designations along either side of SR 65. Based on Table 3.3-12, residences within 100 feet of SR 65 could be exposed to cancer risks exceeding 10 per million. This is a **potentially significant impact**.

As shown in Table 3.3-12, the incremental cancer risk at the maximum exposed residential receptor could exceed the PCAPCD threshold of 10 per million at distances less than 100 feet from the edge of SR 65. Residences or other sensitive receptors (daycares, schools, and medical facilities) located at 100 feet or more from the edge of SR 65 would not be exposed to DPM at levels that exceed PCAPCD's threshold of 10 persons per million. However, because the chronic hazard index (HI) could be exceeded for sensitive uses within 100 feet to SR 65, the impact is **potentially significant**.

Mitigation Measures

Mitigation Measure 3.3-5(a) (Full Specific Plan and Area A)

The Specific Plan design guidelines and development standards shall incorporate the following measures to reduce or avoid exposure of sensitive receptors to TACs:

- i. *New sensitive land uses shall not be permitted within 300 feet of a large gasoline station (defined as a facility with a throughput of 3.6 million gallons per year or greater). Require a 50-foot separation between gasoline stations with a throughput less than 3.6 million gallons per year.*
- ii. *Only non-perchloroethylene dry-cleaning facilities shall be permitted within the Plan Area.*

3.3-5(b) (V5SP and Area A)

Residential units shall not be constructed at distances less than 100 feet of the edge of the SR 65 right-of-way.

Impact Significance after Mitigation: Implementation of the Mitigation Measures 3.3-5(a) and 3.3-5(b) would reduce the potential exposure of on-site sensitive receptors to TACs and would ensure that health risk levels associated with V5SP build-out and Area A build-out would be below the PCAPCD significance thresholds. Thus, this impact would be **less than significant**.

Impact 3.3-6: Land uses to be developed under the proposed project would result in exposure of substantial persons to objectionable odors.

Full Specific Plan and Area A

In regard to operations, no common sources of substantial nuisance odors, such as wastewater treatment facilities or waste-disposal facilities are proposed as part of the project. While commercial uses could provide uses that may include sources of odorous emissions (e.g., fast-food restaurants) that could be perceived as offensive to some individuals, it is assumed that the size, location, and construction of these facilities would not create significant odor impacts given the covered refuse container locations within commercial areas.

Regarding land use compatibility of locating sensitive receptors in proximity to existing sources of odor in the region, the primary source of potential odors in the Specific Plan vicinity is the Lincoln Wastewater Treatment Plant, which would be about 0.75 miles from the nearest residences proposed in Area A and about 0.09 miles east and 0.38 miles south of potential residences along Fiddymont Road and Moore Road, respectively, as proposed under the V5SP. The PCAPCD lists a project screening distance of two miles from wastewater treatment plants in the *CEQA Air Quality Handbook*. Since potentially odor-sensitive land uses could be located within this screening distance as part of Area A and the V5SP, an odor complaint records request was sent to the PCAPCD and determined that the Lincoln Wastewater Treatment Plant had generated four odor complaints total in the years 2008, 2009, and 2011.³¹ Although there have

³¹ Finnell, John, PCAPCD, e-mail communication with Matt Morales of ESA. February 11, 2015.

been few odor complaints in recent years, the Specific Plan could include residential uses in greater density and proximity to the wastewater treatment plant, which could result in increased odor complaints. In addition, the prevailing wind direction in the Plan Area is from the southeast and therefore, the Plan Area would be located directly downwind from the wastewater treatment plant. CEQA does not require a project to mitigate for existing environmental conditions, except if the project in question would exacerbate those environmental conditions. While the Lincoln Wastewater Treatment Plant is an existing facility and has 1.4 MGD of capacity to serve Area A, expansion of Areas B through J requiring more than 0.36 MDG of capacity could require an expansion of the wastewater treatment plant, which could exacerbate odor issues. The proposed project would require real estate disclosure notices be provided by builders and landowners selling homes within the area to notify potential purchasers of the location of the wastewater treatment plant. However, such notices would not mitigate the potential odors of the treatment plant, and there are no known feasible odor treatments that could be employed. Therefore, this impact would represent a potentially significant odor source and development of additional sensitive receptors under the proposed project would be considered a **potentially significant** impact.

Mitigation Measure

None available.

Impact Significance after Mitigation: Although the proposed project would require future sellers of residences near the wastewater treatment plant to provide notice to purchasers, notice of potentially unpleasant odors would not mitigate the nuisance impact. Because there are no known feasible odor mitigation techniques available to fully mask the occasional smell of the wastewater pond water, this impact is considered **significant and unavoidable**.

Cumulative Impacts

The geographic context for changes in the air quality environment due to development of the Specific Plan would be both regional and local. Ozone would be the primary pollutant of regional concern, and the cumulative context would be comprised of the SVAB, which includes a multitude of projects planned therein, including development of the other planned Villages in the City of Lincoln. The cumulative impact analysis for ozone is provided in Impact 3.3-7, below.

Particulates (fugitive dust and DPM), CO, and TACs would result in localized impacts in close proximity to pollutant sources. The CO and TAC localized exposure analysis detailed in Impacts 3.3-4 and 3.3-5, respectively, incorporated cumulative traffic assumptions in order to determine the worst case pollutant scenario. Development under the proposed project would result in a less-than-significant impact related to localized impacts of CO and TACs.

As described above in Impact 3.3-6, the V5SP would not include uses that have been identified by PCAPCD as potential sources of objectionable odors. Further, any odors produced by the

expanded WWTF would not be combined with any other objectionable odors. Therefore, the Specific Plan would not contribute to a cumulative odor impact.

As described above in Impact 3.3-1, the Specific Plan would not conflict with or obstruct implementation of applicable air quality plans for the region, which considers cumulative development. Accordingly, this would be considered a **less than cumulatively considerable** impact.

Impact 3.3-7: The proposed project would result in a cumulatively considerable net increase of any criteria pollutant for which the region is in nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).

ROG and NO_x are ozone precursors and are primarily of regional concern. Thus, all other mobile, area, and energy sources in the SVAB that would operate concurrently with development under the proposed project would contribute to cumulative operational-related ROG and NO_x emissions. Even without development of the Specific Plan, cumulative increases in ozone precursors due to development in the SVAB would be considered significant. Land uses to be developed under the proposed project would contribute to the cumulative degradation in air quality by generating vehicle trips and developing uses that result in area source (such as consumer products and architectural coating application) and energy source (such as natural gas combustion) emissions. Construction activities, although temporary, would also contribute to short-term increases in ROG, NO_x, and PM₁₀.

For project operations, PCAPCD recommends a criteria pollutant cumulative threshold of significance for land use projects of 10 pounds per day each for ROG and NO_x, which only applies if the project's emissions are less than 82 pounds per day.³² The application of a 10 pounds per day cumulative threshold for ROG and NO_x for the proposed V5SP would not be appropriate due to the overall size of the project and since the project would exceed the District's 82 pounds per day operational significance threshold. Therefore, for this analysis, if the operational emissions of ROG and NO_x exceed the PCAPCD's 82 pounds per day significance threshold, then the project would be considered to result in a cumulatively considerable contribution to the ozone nonattainment area and a cumulatively significant impact.

As discussed in Impact 3.3-3 and shown in Tables 3.3-9 and 3.3-10, both the V5SP and Area A would generate operational emissions of ROG and NO_x that would exceed the PCAPCD's 82 pounds per day significance threshold. Although development of Village 5 was accounted for in the City of Lincoln General Plan, the land uses to be developed would contribute ozone precursor emissions of ROG and NO_x, and thus, the impact would be considered **cumulatively potentially significant**.

³² Placer County Air Pollution Control District, 2012. CEQA Air Quality Handbook, p. 2-4.

Mitigation Measure

Mitigation Measure 3.3-7 (Full Specific Plan and Area A)

The applicant(s) shall implement Mitigation Measure 3.3-3 to reduce operational ROG, NOx and PM10 emissions.

Impact Significance after Mitigation: Mitigation Measure 3.3-7 would reduce the Specific Plan's net contribution of ozone precursors by directly reducing emissions of ROG and NOx by encouraging employees to carpool/vanpool/ride share, restricting idling times at onsite truck loading and unloading areas to 5 minutes and installing onsite bicycle racks. These mitigation measures would reduce mobile emissions of ROG, NOx and PM10, but the reduction would not likely be enough to reduce these emissions to below the PCAPCD's significance threshold. Therefore, the impact would remain **cumulatively significant and unavoidable**.

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3.4 Biological Resources

This section assesses the potential effects of implementing the V5SP on biological resources. The section includes a description of relevant baseline information, including: a description of the Plan Area's habitats; a description of special-status plant and wildlife species that could potentially occur in the area; and federal, state, and regional regulations pertaining to plant and wildlife species and the regulatory agencies that enforce these standards. A description of the potential impacts of the proposed project is also provided and includes the identification of feasible mitigation (where applicable) to avoid or lessen the impacts. In addition to evaluating the environmental impacts resulting from implementation of the V5SP at a programmatic level, this section also describes the potential project-specific impacts resulting from development of Area A¹ and an 80-acre portion of Area J (referenced as Windsor Cove) of the Specific Plan if specific information is known for those areas.

Comments on the 2014 NOP were received from cities near the Plan Area, private individuals, community organizations, and government agencies. Comments relevant to the biological resources section were received from the Placer County Community Development Resource Agency and the Lincoln Open Space Committee. These comments focused on special-status species, their habitats, and wetlands, and are addressed in this section.

The primary sources of data referenced for this section include:

- City of Lincoln 2050 General Plan;²
- City of Lincoln 2050 General Plan Environmental Impact Report;³
- Biological Resources Assessment for the Lincoln Village 5 & SUD-B Specific Plan;⁴
- Dry Season Survey for Federally Listed Vernal Pool Branchiopods for the Lincoln Village 5, Phase 1 Project;⁵
- Wetland Delineation for the Lincoln Village 5, Phase 1 Project;⁶
- Special-Status Plant Survey – Lincoln Village 5 Project;⁷

¹ Area A is referred to as the Phase 1 Area in the ECORP reports cited in this section.

² City of Lincoln, 2008. City of Lincoln 2050 General Plan. Adopted March 25, 2008.

³ City of Lincoln, 2008. City of Lincoln General Plan Update Final Environmental Impact Report. State Clearinghouse No. 2005112003. Prepared by Environmental Science Associates. February 2008.

⁴ ECORP Consulting, Inc., 2015. Biological Resources Assessment for the Lincoln Village 5 & SUD-B Specific Plan. Prepared for Richland Developers, Inc. March 18, 2015.

⁵ ECORP Consulting, Inc., 2014. Federally listed large brachiopod dry season surveys, Lincoln Village 5, Phase 1 Project. Letter addressed to U.S. Fish and Wildlife Service, Sacramento, CA. December 16, 2014.

⁶ ECORP Consulting, Inc., 2014. Wetland Delineation for the Lincoln Village 5, Phase 1 Project. Prepared for Richland Developers, Inc. December 1, 2014.

⁷ ECORP Consulting, Inc., 2014. Special-Status Plant Survey for the Lincoln Village 5, Phase 1 Project. Prepared for Richland Developers, Inc. August 27, 2014.

- Elderberry Shrub (*Sambucus* spp.) Surveys for the Lincoln Village 5, Phase 1 Project;⁸
- Preliminary Biological Assessment, Moore Road Property;^{9,10}
- Moore Road Property Wetland Delineation and Preliminary Jurisdictional Determination;¹¹
- Moore Road Property Arborist Report and Native Oak Inventory;¹²
- Placer County Conservation Plan (PCCP), Working Draft. March 2016;
- Federal Endangered and Threatened Species that may be Affected by Projects in the Sacramento East and Sacramento West, California 7.5-Minute Topographic Quadrangles;¹³
- California Natural Diversity Database (CNDDDB);¹⁴ and
- California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants.¹⁵

3.4.1 Environmental Setting

Project Location

The Plan Area is located within a rural area in western Placer County, surrounded by Lincoln Regional Airport, rural residences, and agricultural land to the north; the City of Lincoln, rural residences, agricultural land, and vacant land to the east; the City of Lincoln Wastewater Treatment and Reclamation Facility (WWTRF) and agricultural land to the south; and agricultural land to the west. The location of the proposed Lincoln V5SP corresponds to portions of Sections 13, 14, 22-26, Township 12 North, and Range 5 East Mount Diablo Base and Meridian (MDBM), as well as a portion of Section 17-20 and 30, Township 12 North, and Range 6 East MDBM of the “Lincoln, California,” “Roseville, California,” “Pleasant Grove, California” and “Sheridan, California” 7.5-minute quadrangles (see **Figure 2-2**). The Plan Area is south of the Lincoln Regional Airport and a portion of the Plan Area is within the Airport’s flyover zone. The approximate center of the Plan Area is located at 38° 52’ 58” North and 121° 22’ 12” West within the Upper Coon-Upper Auburn Watershed. The Plan Area is traversed by Auburn and Markham Ravines and bisected by SR 65.

⁸ ECorp Consulting, Inc., 2014. Results of Elderberry Shrub Surveys for the Lincoln Village 5, Phase 1 Project. Prepared for Richland Developers, Inc. March 9, 2015.

⁹ Cardno, 2015. Preliminary Biological Assessment for the Moore Road Property. March 2, 2015.

¹⁰ The Moore Road property is a small portion of Area J as described in the V5SP, referred to as Windsor Cove in this EIR.

¹¹ Cardno, 2015. Wetland Delineation and Preliminary Jurisdictional Determination. Moore Road Property. February 4, 2015.

¹² Cardno, 2015. Moore Road Property Arborist and Native Oak Inventory. March 2, 2015.

¹³ U.S. Fish and Wildlife Service, 2015. List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project. Consultation Code: 08ESMF00-2015-SLI-0329. Available: <http://ecos.fws.gov/ipac/>. Accessed April 16, 2015.

¹⁴ California Department of Fish and Wildlife, 2015. California Natural Diversity Database (CNDDDB) RareFind 4 personal computer program. Available: <http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp>. Accessed April 16, 2015.

¹⁵ California Native Plant Society, 2015. Inventory of Rare and Endangered Plants (online edition, v8-02). Available: <http://www.rareplants.cnps.org/>. Accessed April 16, 2015.

Project Setting

The Plan Area is located in the Sacramento Valley subregion, Great Valley region of the California Floristic Province.¹⁶ This area is characterized by a Mediterranean climate typical of the Great Valley of California. The annual precipitation in Sacramento (approximately 15 miles to the southwest) is 19.9 inches (with the wettest period during November through March), and average daily temperatures range from 47.7°F in December to 77.4°F in July.¹⁷ Mean annual precipitation in Auburn (approximately 15 miles to the east) is 34.39 inches and 22.80 inches for Rocklin (approximately 9 miles to the southeast), with 89 percent occurring from November through April. Mean annual maximum temperature is 72.4°F with the highest mean monthly maximum occurring in July (92.5°F). Mean annual minimum temperature is 48.3°F with the lowest mean monthly minimum occurring in January (36.6°F).¹⁸ Precipitation and weather data is included here to provide context for the Upper Coon-Upper Auburn watershed.

The local topography is flat to gently rolling. The Plan Area is mostly undeveloped with some scattered single family residences and agricultural buildings, and is situated at an elevation range of 85-125 feet above mean sea level (MSL).

Plan Area Plant Communities and Wildlife Habitats

Wildlife habitats are generally described in terms of dominant plant species and plant communities along with landform, disturbance regime, and other unique environmental characteristics. The wildlife habitats described in this section are based on the Biological Resources Assessment for the Lincoln Village 5 and SUD-B Specific Plan,¹⁹ and the California Department of Fish and Wildlife's (CDFW) *A Guide to Wildlife Habitats*²⁰ that is used in CDFW's California Wildlife Habitat Relationships System.

Wildlife habitats generally correspond to plant communities. Plant communities are assemblages of plant species that occur together in the same area and are repeated across landscapes. Both species composition and relative abundance define them. Plant communities within the Plan Area were identified using field reconnaissance and aerial photography. CDFW classifies certain

¹⁶ Baldwin, B. G., D.H Goldman, D.J. Keil, R. Patterson, T.J. Rosatti, and D.H. Wilken, editors. 2012. *The Jepson Manual; Vascular Plants of California*, Second Edition. University of California Press, Berkeley, California.

¹⁷ National Oceanic and Atmospheric Administration, 2002. *Climatology of the United States No. 81, Monthly Station Normals of Temperature, Precipitation, and Heating and Cooling Degree Days, 1971-2000, 04 California*. NOAA, National Environmental Satellite, Data, and Information Service, National Climatic Data Center. Asheville, North Carolina.

¹⁸ Western Regional Climate Center. Auburn, California (040383), Period of Record Monthly Climate Summary, Period of Record: 01/01/1905 to 01/20/2015. Available: www.wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca0383. Accessed February 20, 2015.

¹⁹ ECORP Consulting, Inc., 2015. *Biological Resources Assessment for the Lincoln Village 5 & SUD-B Specific Plan*. Prepared for Richland Developers, Inc. March 18, 2015.

²⁰ Mayer, K. E., and W.F. Laudenslayer, Jr., eds., 1988. *A Guide to Wildlife Habitats of California*. California Department of Fish and Game. Sacramento, CA.

vegetation types as rare or threatened and in need of conservation.²¹ Waters of the United States (U.S.) are present as inclusions within these habitat types and are addressed in subsequent sections.

The Plan Area has historically been used for ranching or farming, which has resulted in substantial changes and conversions of native habitats. The current land uses on the properties within the Plan Area include grazing, rice farming, small ranches, and rural residential homes. Nonnative annual grassland is the most common habitat type within the Plan Area. Riparian woodland is found in association with the Auburn and Markham Ravines.²²

Historically, natural habitats within the Plan Area included perennial grasslands, riparian woodlands, oak woodlands, and a variety of wetlands, including vernal pools, seasonal wetlands, freshwater marshes, ponds, and streams. Though much of these natural habitats in the Plan Area have been lost or altered due to agriculture or rural residential development, the presence of scattered portions of undeveloped habitat and the proximity to the Auburn and Markham Ravines and the rice fields provides suitable habitat for a variety of common and special-status species.

The following land cover types, described and delineated in the Draft PCCP, occur throughout the Plan Area and are shown in **Figure 3.4-1. Table 3.4-1**, below, details the approximate acreage of each habitat type within the Plan Area, and within each phase of the specific plan.

Upland Habitats

Nonnative Annual Grassland

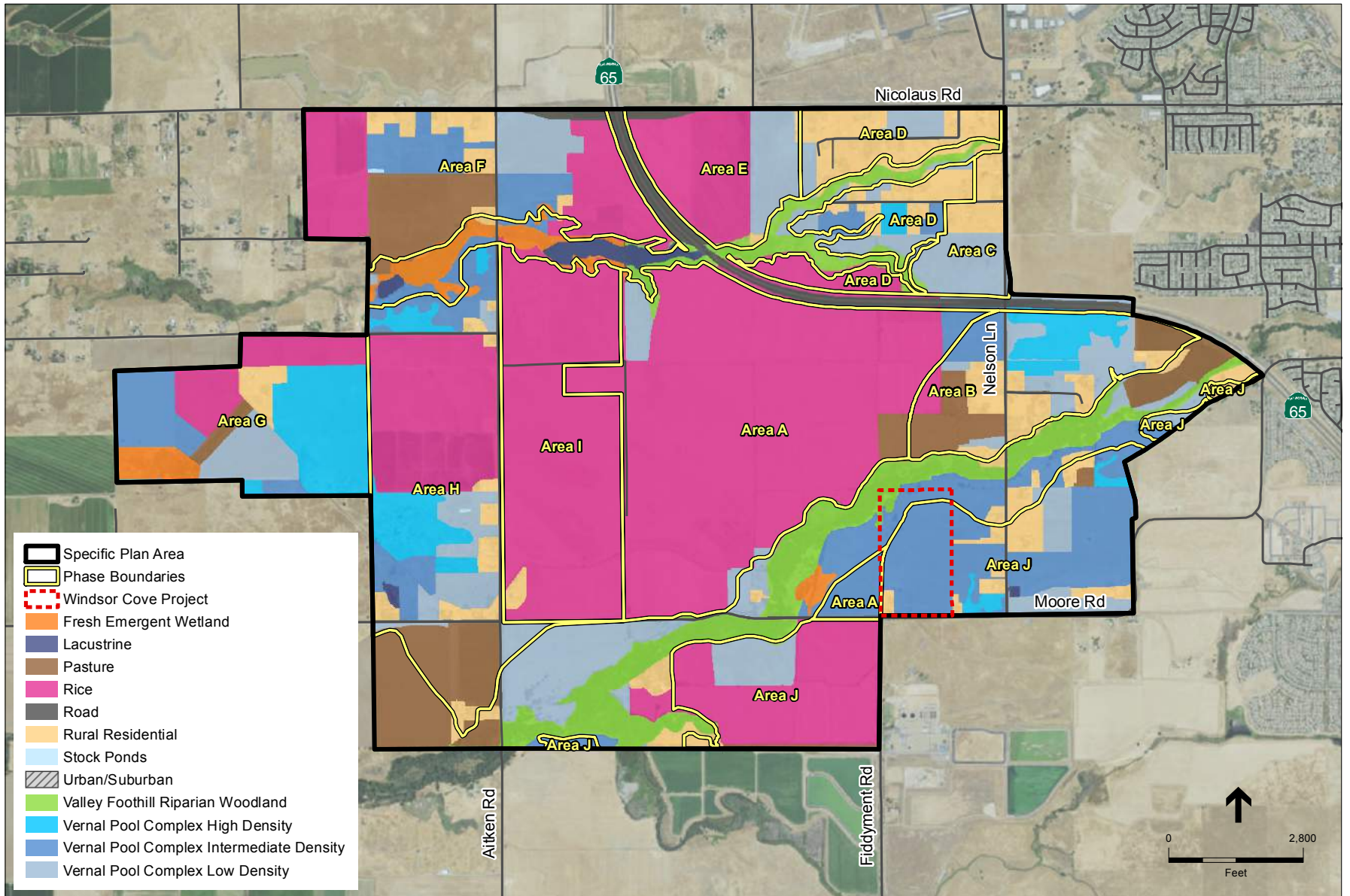
The nonnative annual grasslands within the Plan Area are dominated by a variety of species, including wild oats (*Avena fatua*), ripgut brome (*Bromus diandrus*), Italian ryegrass (*Festuca perennis*), medusa head grass (*Elymus caput-medusae*), and wild radish (*Raphanus sativus*). Other plant species commonly occurring in this community include redstem filaree (*Erodium cicutarium*), winter vetch (*Vicia villosa*), hairy hawkbit (*Leontodon saxatilis*), rose clover (*Trifolium hirtum*), pitgland tarweed (*Holocarpha virgata*), cultivated wheat (*Triticum aestivum*), valley tassels (*Castilleja attenuata*), Spanish lotus (*Acmispon americanus*), and milkweed (*Asclepias* spp.).²³

Nonnative annual grassland within the Plan Area may contain vernal pools, seasonal wetlands, and seasonal swales at various densities and are therefore mapped as “vernal pool complex” (VPC) within the PCCP and in this EIR (see Figure 3.4-1 and Table 3.4-1). Areas mapped as VPC typically contain at least 89.5 percent of annual grassland. The grassland community within the Plan Area supports numerous birds, including mourning dove (*Zenaida macroura*), Western

²¹ Sawyer, J. O., T. Keeler-Wolf, and J. M. Evens, 2009. *A Manual of California Vegetation*. California. 2nd Edition. Native Plant Society Press. Sacramento, CA.

²² City of Lincoln, 2016. Lincoln Village 5 Specific Plan. August 12, 2016.

²³ ECORP Consulting, Inc., 2015. Biological Resources Assessment for the Lincoln Village 5 & SUD-B Specific Plan. Prepared for Richland Developers, Inc. March 18, 2015.



SOURCE: Cunningham Engineering, 2015

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Figure 3.4-1
Habitats in the Plan Area

**TABLE 3.4-1.
APPROXIMATE ACREAGE OF LAND COVER TYPES BY SPECIFIC PLAN PHASE**

Land Cover Type	Area A	Area B	Area C	Area D	Area E	Area F	Area G	Area H	Area I	Area J	Total Potentially Affected	Conservation Areas	Total
Fresh Emergent Wetland	0.45	0	0	0	0	2.71	24.81	1.33	0.75	0	30.05	57.45	87.5
Lacustrine	0	0	0	0	0	0.48	0	2.68	0	1.23	4.39	26.99	31.38
Pasture	13.71	57.84	0	0	0	84.22	10.98	66.87	0	9.27	242.89	113.26	356.15
Rice	744.44	9.56	0.32	32.8	118.67	156.8	74.21	201.54	402.67	179.27	1,920.28	46.59	1,966.87
Road	1.57	3.4	4.44	5.93	7.36	11.54	0.43	13.83	1.4	2.22	52.12	76.5	128.62
Rural Residential	0.11	58.78	31.78	114.4	3.26	38.75	17.15	39.92	6.42	51.43	362.00	67	429
Stock Ponds	0	0	0	0	0	0.68	0	0.33	0	0	1.01	0	1.01
Urban/Suburban	0	0	0	0	0	0	0	0	0	0.05	0.05	0	0.05
Valley Foothill Riparian Woodland	3.08	0.78	1.71	5.67	2.5	0.93	0	0	0	2.45	17.12	301.73	318.85
VPC ^a High	0	48.91	0	8.12	0	0	111.71	72.41	0	11.57	252.72	2.95	255.67
VPC Intermediate	38.04	20.81	0.03	15.74	0	72.94	59.9	60.64	0	206.8	474.90	114.11	589.01
VPC Low	23.95	54.11	52.15	52.1	50.64	44.65	44.39	70.82	0	83.33	476.14	147.4	623.54
Total	825.35	254.19	90.43	234.76	182.43	413.7	343.58	530.37	411.24	547.62	3,833.67	953.98	4,787.65

NOTES:

^a VPC = vernal pool complex, subdivided by complexes with a high, intermediate, or low density of pools. Areas mapped as VPC high are estimated on average to comprise 4.5% wetlands delineated as vernal pools, 4.0% seasonal wetlands, and 2.0% seasonal swales for a total of 10.5% of vernal pool type wetlands. Areas mapped as VPC intermediate have roughly half of the wetland density as VPC high. The VPC low land cover type is intended to capture the large amount of nonnative annual grasslands and pasture lands that retain small, but appreciable vernal pool ecological function. In the Valley, areas mapped as VPC low are likely on average to show 0.2% delineated vernal pools and larger amounts of seasonal wetlands or seasonal swales.

SOURCE: ECORP Consulting, Inc. 2016; Placer County, 2016. Draft Placer County Conservation Plan, Working Draft. March 2016.

meadowlark (*Sturnella neglecta*), savannah sparrow (*Passerculus sandwichensis*), and foraging habitat for tricolored blackbirds (*Agelaius tricolor*). Other wildlife species likely to occur in the grassland community include western fence lizard (*Sceloporus occidentalis*), gopher snake (*Pituophis catenifer*), deer mouse (*Peromyscus maniculatus*), California vole (*Microtus californicus*), and coyote (*Canis latrans*).²⁴

Rice Fields

The Plan Area also contains many “laser-leveled” rice fields. This rice farming method involves carefully leveling a field and grading to a constant grade from one end of the field to the other. This allows for maximum efficiency in flood irrigation, and generally requires one irrigation point and one drain point for each field. “Checks” (long, linear bermed areas across each field) with doors or gates between each field to allow for irrigation flexibility are often installed. To control rice stubble, approximately 25 percent (allowed maximum) of the stubble is burned and the remainder is disced. The fields are flooded through a series of excavated irrigation canals and ditches. Water enters the Plan Area from a dam at Auburn Ravine and exits at Markham Ravine.²⁵

The rice fields support a variety of wintering waterfowl that likely includes Northern pintail (*Anas acuta*), tundra swan (*Cygnus columbianus*), greater white-fronted geese (*Anser albifrons*), American widgeon (*Anas americana*), and green-winged teal (*Anas carolinensis*), among many others.²⁶

Riparian Woodland

Much of the upland area adjacent to Auburn Ravine, and to a lesser extent Markham Ravine, supports riparian woodland habitat. These woodlands are dominated by native trees, shrubs, and vines including valley oak (*Quercus lobata*), California wild grape (*Vitis californica*), Himalayan blackberry (*Rubus armeniacus*), and poison oak (*Toxicodendron diversilobum*). The canopy of the riparian woodland is dominated by Valley oak and Fremont cottonwood (*Populus fremontii*) with southern catalpa (*Catalpa bignonioides*) and box-elder (*Acer negundo*) also occurring frequently. Herbaceous species in the understory are largely the same as those observed in the nonnative annual grasslands on the project site.²⁷

Riparian habitats provide abundant food, cover, and breeding sites for wildlife in close proximity to water. These factors, and the structural diversity of riparian woodland, are largely responsible for the high diversity of wildlife in this habitat type. Characteristic bird species in this habitat include the California quail (*Callipepla californica*), mourning dove, Nuttall's woodpecker (*Picoides nuttallii*), black phoebe (*Sayornis nigricans*), western wood-pewee (*Contopus sordidulus*), California towhee (*Pipilo crissalis*), and song sparrow (*Melospiza melodia*).

²⁴ Ibid.

²⁵ Ibid.

²⁶ Ibid.

²⁷ Ibid.

A number of these species nest or roost in riparian woodlands and feed in adjacent habitat types, such as nonnative annual grassland and agricultural fields. Riparian woodlands also provide important feeding, resting, and nesting habitat for neotropical migrant songbirds such as warblers, vireos, grosbeaks, and flycatchers. Mammals found within riparian habitat could include the raccoon (*Procyon lotor*), deer mouse, broad-footed mole (*Scapanus latimanus*), striped skunk (*Mephitis mephitis*), opossum (*Didelphis virginianus*), and gray fox (*Urocyon cinereoargenteus*).²⁸

Amphibians and reptiles likely to occur in this community include the western toad (*Anaxyrus boreas*), Sierran tree frog (*Pseudacris sierra*), California king snake (*Lampropeltis californiae*), valley garter snake (*Thamnophis sirtalis fitchi*), and Gilbert's skink (*Plestiodon gilberti*). Special-status species that forage and/or nest in riparian habitats include the Swainson's hawk (*Buteo swainsoni*), Cooper's hawk (*Accipiter cooperii*), yellow warbler (*Dendroica petechia*), white-tailed kite, and yellow-breasted chat (*Icteria virens*).²⁹

Aquatic Habitat

Vernal Pool

Vernal pools are a unique type of wetland that form in a Mediterranean climate. In general, vernal pools are topographic basins that are underlain with an impermeable or semi-permeable hardpan or duripan layer. Direct rainfall and surface runoff inundate the pools during the wet season. The pools remain inundated and/or the soil maintains saturation through spring and the pools are dry by late spring until the following wet season. Vernal pools are found in the northeastern and southeastern corners of the Plan Area.

Vernal pools support a distinct flora and fauna. Vernal pools are often connected by swales forming larger vernal pool complexes. A vernal pool complex is a series of vernal pools and seasonal wetland swales that are hydrologically connected during wet periods. In the PCCP, three densities of vernal pool complexes are mapped: high, intermediate, and low. Areas mapped in the PCCP as high density vernal pool complexes are estimated on average to comprise 4.5 percent wetlands delineated as vernal pools, 4.0 percent seasonal wetlands, and 2.0 percent seasonal swales for a total of 10.5 percent of vernal pool type wetlands. Areas mapped in the PCCP as intermediate density have roughly half of the wetland density as vernal pool complex "high". The vernal pool complex "low" land cover type is intended to capture the large amount of nonnative annual grasslands and pasture lands that retain small, but appreciable vernal pool ecological function. In the Central Valley, areas mapped as vernal pool complex "low" are likely on average to show 0.2 percent delineated vernal pools and larger amounts of seasonal wetlands or seasonal swales.³⁰

²⁸ Ibid.

²⁹ Ibid.

³⁰ Placer County, 2016. Placer County Conservation Plan. Working Draft. March 2016 Section 3.3.1.2.5, Table 3-11.

In contrast to the surrounding grasslands which are dominated by nonnative annual grasses, vernal pools are typically dominated by native plant species, and also provide habitat for several species of native aquatic invertebrates that are only found in the unique vernal pool environment. Vernal pools are differentiated from seasonal wetlands based on species composition and hydrology. Typical vernal pool species are absent from seasonal wetlands and vice versa.

Vernal pools in the Plan Area range from well-defined basins with distinct boundaries to those with indistinct boundaries that have been altered over time through previous agricultural use. Dominant plants within the vernal pools in the Plan Area include slender popcorn-flower (*Plagiobothrys stipitatus*), American pillwort (*Pilularia americana*), and Carter's buttercup (*Ranunculus bonariensis*).

Seasonal Wetland/Seasonal Swales

Seasonal wetlands are ephemerally wet due to accumulation of surface runoff and rainwater within low-lying areas. Inundation periods tend to be relatively short and they are commonly dominated by nonnative annual, and sometimes perennial, hydrophytic species plants. Seasonal swales (sometimes referred to as "seasonal wetland swales") are linear wetland features that do not exhibit an ordinary high water mark. Typical seasonal wetlands in the Plan Area are dominated by low-growing grasses and annual herbs such as annual hairgrass (*Deschampsia danthonioides*), Italian ryegrass, beardless wild rye (*Elymus triticoides*), meadow barley (*Hordeum brachyantherum*), annual bluegrass (*Poa annua*), manna grass (*Glyceria declinata*) and Bermuda grass (*Cynodon dactylon*). Typical drainage swales are dominated by Mediterranean barley (*Hordeum marinum* var. *gussoneanum*), fiddle dock (*Rumex pulcher*), chicory (*Cichorium intybus*), little quaking grass (*Briza minor*), redstem filaree, toad rush (*Juncus bufonius*), white meadowfoam (*Limnanthes alba*), and hyssop loosestrife (*Lythrum hyssopifolia*). When inundated, these seasonal wetlands and seasonal swales provide habitat for aquatic invertebrates and amphibians. For most of the remainder of the year, wildlife use is similar to that of typical Central Valley nonnative annual grassland habitat.

Fresh Emergent Marsh

Fresh emergent marsh is characterized by erect, rooted, primarily perennial herbaceous hydrophytes (plants adapted for growing in saturated soils). Two emergent marshes are located in the southern portion of Area A. One is located north and adjacent to Auburn Ravine and the other is located south of Auburn Ravine and adjacent to a seasonal wetland feature. Dominant vegetation within representative emergent marsh includes spotted ladythumb (*Persicaria maculosa*). Marsh habitat supports waterfowl species and amphibians as described above for riparian wetlands and rice fields, and could support additional bird species including red-winged blackbird (*Agelaius phoeniceus*) and if open water is present, species such as American coot (*Fulica americana*).

Riparian Wetland

Riparian wetlands were mapped within the seasonally inundated floodplain and margins below the ordinary high water mark (OHWM) of Auburn Ravine. Dominant vegetation within a

representative riparian wetland included Valley oak, sandbar willow (*Salix exigua*), arroyo willow (*Salix lasiolepis*), Himalayan blackberry, mugwort (*Artemisia douglasiana*), Italian ryegrass, common bedstraw (*Galium aparine*), cut-leaved geranium (*Geranium dissectum*), beardless wild rye, and dallisgrass (*Paspalum dilatatum*). Wildlife species that could use this habitat are similar to those described for riparian woodland above.

Perennial Drainage

A perennial channel has flowing water throughout the year. The gradient is low and water velocity is slow. Perennial stream beds are located below the water table year-round, and groundwater is a source of water for the channel. Wildlife species that could use this habitat are similar to those described for riparian woodland above. The open water and seasonally inundated sand bars of Auburn Ravine and Markham Ravine are considered “riverine habitat”. Riverine habitat supports submerged aquatic vegetation, as well as sparse seasonal wetland plants on stream banks and sand bars such as cocklebur (*Xanthium strumarium*) and watergrass (*Echinochloa crus-galli*).

Auburn Ravine – Auburn Ravine is located in the southern portion of the Plan Area in a northeast/southwest alignment. The ravine’s most significant feature is its perennial stream, which originates approximately 10 miles to the east near the City of Auburn, and ultimately flows through the City of Lincoln to the East Side Canal. Through the Plan Area, Auburn Ravine supports dense riparian woodland and riparian wetlands (described above) within low-lying sections of its floodplain.

Markham Ravine – Markham Ravine is a perennial stream located in the northern portion of the Plan Area in an east/west alignment. The floodplain of Markham Ravine supports riparian wetlands and small patches of riparian woodland. Species composition of the riparian wetlands and riparian woodlands are described above.

Intermittent Drainage

An intermittent drainage has flowing water during certain times of the year, when groundwater provides water for stream flow. During dry periods, intermittent streams may not have flowing water. Runoff from rainfall is a supplemental source of water for stream flow. One intermittent drainage was found within the southern portion of Area A. The intermittent drainage was unvegetated and the edges were dominated by hyssop loosestrife, creeping spikerush (*Eleocharis macrostachya*), toad rush, and purslane speedwell (*Veronica peregrina*).

Irrigation Canal

Irrigation canals throughout the Plan Area convey irrigation water to and from the rice fields. Dominant plant species identified within the irrigation canals included tall flatsedge (*Cyperus eragrostis*), hairy willow-herb (*Epilobium ciliatum*), manna grass, and broad-leaf cattail (*Typha latifolia*).

Wetlands/Waters of the U.S.

Wetlands are ecologically complex habitats that support a variety of both plant and animal life. In a jurisdictional sense, the federal government defines wetlands in Section 404 of the Clean Water Act (CWA) as “areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support (and do support, under normal circumstances) a prevalence of vegetation typically adapted for life in saturated soil conditions” (33 CFR 328.3[b] and 40 CFR 230.3). Under normal circumstances, the federal definition of wetlands requires three wetland identification parameters be present: wetland hydrology, hydric soils, and hydrophytic vegetation. Examples of wetlands include freshwater marsh, seasonal wetlands, and vernal pool complexes that have a hydrologic link to other waters of the U.S. (see definition below for “other waters of the U.S.”). The U.S. Army Corps of Engineers (USACE) is the agency responsible for regulating wetlands under Section 404 of the CWA, while the Environmental Protection Agency (U.S. EPA) has overall responsibility for implementing and enforcing the CWA. The CDFW does not normally have direct jurisdiction over wetlands unless a Streambed Alteration Agreement is required or a state-listed endangered species is deemed present; however, CDFW is a trustee agency with trust responsibility for wildlife and habitats pursuant to California law.

“Other waters of the U.S.” refers to those hydric features that are regulated by the CWA but are not wetlands (33 CFR 328.4). To be considered jurisdictional, these features must exhibit a defined bed and bank and an ordinary high-water mark. Examples of other waters of the U.S. include rivers, creeks, intermittent and ephemeral channels, ponds, and lakes.

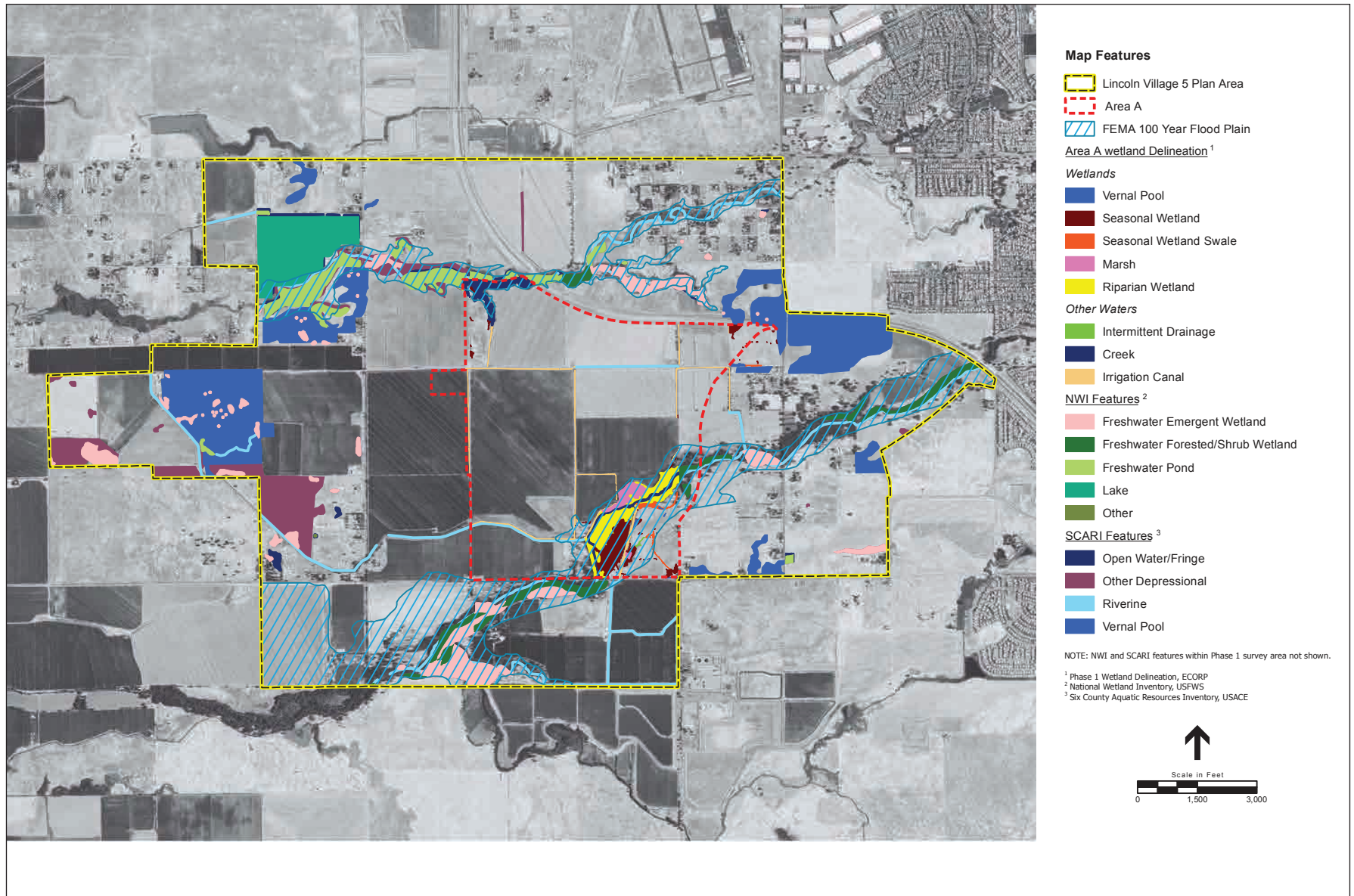
The majority of the Plan Area has not been subject to a jurisdictional delineation of Waters of the U.S. This section describes the results of a wetland assessment using National Wetland Inventory maps and the Six County Aquatic Resources Inventory (SCARI) data to identify potential wetlands in the Plan Area. A wetland delineation of potential Waters of the U.S. was conducted in accordance with the *Corps of Engineers Wetlands Delineation Manual*³¹ and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region*³² for Area A in April and October 2013 and August 2014, and for Windsor Cove (located in Area J) in May 2014 and those results are also discussed below.^{33,34} The wetland delineation for Area A has been verified by the USACE. The results of both the assessment and delineation are shown in **Figure 3.4-2. Wetlands/Waters of the U.S. for the Plan Area include vernal pools, seasonal**

³¹ Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual. Technical Report Y- 87-1. U.S. Army Engineer Waterways Experiment Station. Vicksburg, Mississippi. Available: <http://el.erdc.usace.army.mil/publications.cfm?Topic=techreport&Code=wetland>.

³² U.S. Army Corps of Engineers. 2008. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region. ed. J.S. Wakeley, R.W. Lichvar, and C.V. Noble. ERDC/EL TR-06-16. Vicksburg, MS: U.S. Army Engineer Research and Development Center. Available: http://www.usace.army.mil/Missions/CivilWorks/RegulatoryProgramandPermits/reg_supp.aspx.

³³ Cardno. 2015. Wetland Delineation and Preliminary Jurisdictional Determination. Moore Road Property. February 4, 2015.

³⁴ ECorp Consulting, Inc., 2014. Wetland Delineation for the Lincoln Village 5, Phase 1 Project. Prepared for Richland Developers, Inc. December 1, 2014.



SOURCE: AIP, 2012 map; ECORP Consulting, Inc., 2015

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Figure . -2
 wetland features

wetlands and seasonal swales, riparian wetlands and the Auburn and Markham Ravines. The acreages of these features are presented in **Table 3.4-2** and are described above in the Plan Area Plant Communities and Wildlife Habitats section.

**TABLE 3.4-2.
POTENTIAL WETLANDS/WATERS OF THE U.S. IN PORTIONS OF THE PLAN AREA THAT HAVE
HAD FORMAL WETLAND DELINEATIONS**

Type	Acreage
Area A¹	
Wetlands	
Vernal Pool	0.997
Seasonal Wetland	20.595
Farmed Seasonal Wetland	6.873
Seasonal Swale	3.46
Fresh Emergent Marsh	6.810
Riparian Wetland	31.855
Other Waters	
Intermittent Drainage	0.164
Creek	18.952
Irrigation Canal	2.933
Irrigation Ditch	4.560
Roadside Ditch	1.328
Total	98.547
Windsor Cove (located in Area J)²	
Wetlands	
Vernal Pool	0.682
Vernal Swale	3.484
Freshwater Forested Wetland	3.118
Other Waters	
Ephemeral Drainage	0.391
Total	7.675

SOURCES:

- 1 ECORP Consulting, Inc., 2015. Wetland Delineation for the Lincoln Village 5, Phase 1 Project. Prepared for Richland Developers, Inc. June 2, 2015. Verified by the USACE June 5, 2015.
- 2 Cardno, 2015. Wetland Delineation and Preliminary Jurisdictional Determination. Moore Road Property. February 4, 2015.

Sensitive Natural Community

A sensitive natural community is a biological community that is regionally rare, provides important habitat opportunities for wildlife, is structurally complex, or is in other ways of special concern to local, state, or federal agencies. Most sensitive natural communities are given special consideration because they perform important ecological functions, such as maintaining water quality and providing essential habitat for plants and wildlife. Some plant communities support a unique or diverse assemblage of plant species and therefore, are considered sensitive from a botanical standpoint. Appendix G of the CEQA Guidelines identifies the elimination of such

communities as a potentially significant impact. The most current version of the CDFW's *List of California Terrestrial Natural Communities*³⁵ indicates which natural communities are of special-status given the current state of the California classification.

Special-Status Species

Special-status species are legally protected under the state and federal Endangered Species Acts or other regulations or are species that are considered sufficiently rare by the scientific community to qualify for such listing. These species are classified under the following categories:

- Species listed or proposed for listing as threatened or endangered under the federal Endangered Species Act (50 Code of Federal Regulations [CFR] 17.12 [listed plants], 17.11 [listed animals] and various notices in the Federal Register [FR] [proposed species]).
- Species that are candidates for possible future listing as threatened or endangered under the federal Endangered Species Act (61 FR 40, February 28, 1996);
- Species listed or proposed for listing by the State of California as threatened or endangered under the California Endangered Species Act (CESA) (14 California Code of Regulations [CCR] 670.5);
- Animal species of special concern to CDFW;
- Animals fully protected in California (California Fish and Game Code, Sections 3511 [birds], 4700 [mammals], and 5050 [reptiles and amphibians]);
- Birds of prey protected under the federal Bald and Golden Eagle Protection Act;
- Species that meet the definitions of rare and endangered under CEQA. CEQA section 15380 provides that a plant or animal species may be treated as “rare or endangered” even if not on one of the official lists (State CEQA Guidelines, section 15380);
- Plants listed as rare or endangered under the California Native Plant Protection Act (California Fish and Game Code, Section 1900 et seq.); and
- Plants considered by CDFW and CNPS to be “rare, threatened or endangered in California” (Rank 1A, 1B, 2A, and 2B in CNPS, 2015) plant species.

The potential occurrence of special-status plant and animal species within the Plan Area and surrounding area has been determined through a review of the CDFW's *Natural Diversity Data Base (CNDDDB)*,³⁶ the U.S. Fish and Wildlife Service's (USFWS) online species list database,³⁷

³⁵ California Department of Fish and Wildlife, 2010. List of Vegetation Alliances and Associations. Vegetation Classification and Mapping Program. Sacramento, CA. Available: http://www.dfg.ca.gov/biogeodata/vegcomp/natural_comm_list.asp.

³⁶ California Department of Fish and Wildlife, 2015. California Natural Diversity Database (CNDDDB) RareFind 4 personal computer program. Available: <http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp>. Accessed April 16, 2015.

³⁷ U.S. Fish and Wildlife Service, 2015. List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project. Consultation Code: 08ESMF00-2015-SLI-0329. Available: <http://ecos.fws.gov/ipac/>. Accessed April 16, 2015.