



**Town of Loomis
General Plan 2020–2040
Volume 3**



Draft

May 2022

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Chapter

1

LAND USE AND POPULATION



1 **LAND USE AND POPULATION**

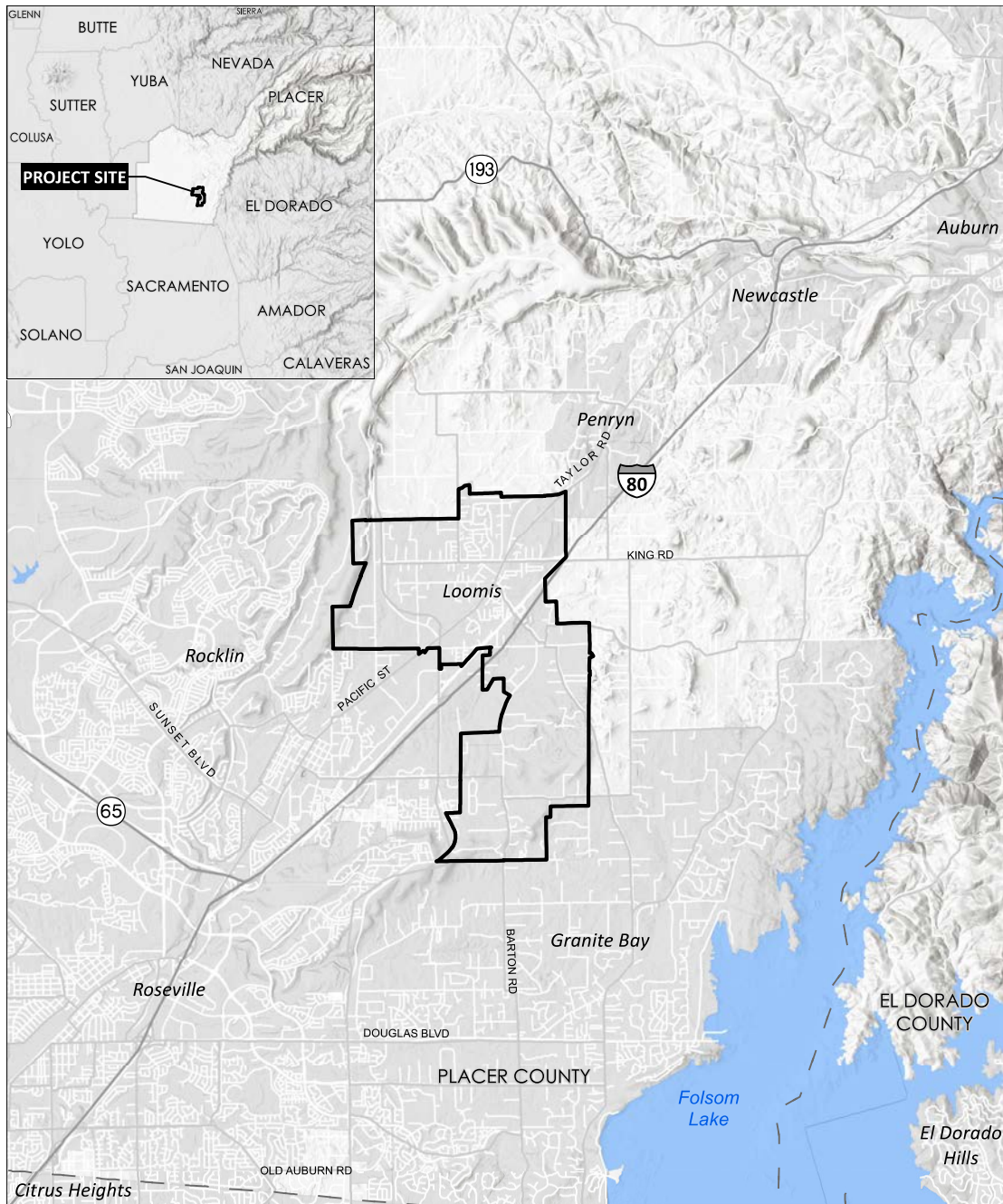
2 The Town of Loomis is in western Placer County in California’s Central Valley,
3 approximately 25 miles northeast of the city of Sacramento along Interstate 80
4 (I-80). The Town is in the heart of the Loomis Basin, an 80 square-mile area of the
5 Placer County foothills that generally includes Loomis, portions of the cities of
6 Rocklin and Roseville, and the unincorporated communities of Penryn and
7 Newcastle.

8 **THE TOWN**

9 Loomis encompasses approximately 4,280 acres of land, excluding roadways. The
10 Town provides for low-density residential, ranchettes, open space, and small-scale
11 agricultural uses around the perimeter of the Town with higher-density uses near
12 the center of Town, I-80, and the Taylor Road corridor. This is reflective of the Town’s
13 historic development with undeveloped land, orchards and other agricultural uses
14 surrounding the central commercial area that included packing sheds along the
15 railroad tracks and Taylor Road. With increasing development in surrounding areas,
16 Loomis land use patterns retain the Town’s history and character by maintaining
17 low-density uses around the perimeter with higher residential densities and
18 commercial and industrial uses in the central portion of the Town.

19 The Town is accessed through a network of regional and local streets stemming
20 from the I-80 corridor and Taylor Road which is the Old Lincoln Highway/Highway 40
21 Route that runs parallel to I-80. Two railroad tracks run generally parallel to Taylor
22 Road through the center of Town and along the western boundary of the Town
23 parallel to Sierra College Boulevard. The railroad corridor and I-80 split the Town and
24 create land use challenges in relation to compatibility, noise, and access. The
25 commercial and industrial land uses are focused in the area along Taylor Road and
26 the railroad as those uses have historically needed to access the railroad and main
27 vehicular travel route. Since the Town’s only connection with I-80 is at Horseshoe Bar
28 Road, this roadway, along with Taylor Road and Sierra College Boulevard provide the
29 primary circulation routes, main gateways and development corridors. Sierra

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1

2 **Figure 1-1. Vicinity Map**

LAND USE AND POPULATION

1 College Boulevard in particular experiences increasing development pressure from
2 the surrounding communities of Rocklin and Lincoln. It can be expected that
3 development pressure will remain within western Loomis into the future, with less
4 pressure on the east side of Loomis where uses outside Town limits remain
5 primarily low-density residential and small farming operations.

6 In addition to ranchettes and small-scale agriculture, there are pockets of open
7 space and undeveloped land that are located within larger residential estates. These
8 areas include creeks, ravines, riparian areas, oak woodlands, ponds, and rock
9 outcroppings. Such features offer natural landscaping and privacy, cherished by the
10 residents, and serve to retain a rural, natural aesthetic and character. Due to the
11 challenges of developing on lands with these natural features and in conjunction
12 with low-density land use designations, it can be expected that Loomis will continue
13 to have large lots and future development that retains these natural features as
14 open space, parks, or visual selling points within estate lots.

15 Loomis retains its small-town character through its land use layout and preservation
16 of large lots and open areas. Limiting the commercial and industrial areas to specific
17 corridors within the center of Town avoids commercial sprawl that leads to heavier
18 urban development. The Town includes mixed uses and denser residential
19 development around the commercial corridors, creating a sense of entering or
20 leaving a distinct and singular Downtown area. This Downtown area encompasses
21 the Taylor Road corridor and the Horseshoe Bar Road corridor extending from I-80.
22 Although development pressure from neighboring areas will continue to grow into
23 the future, the distribution of Loomis's land use designations will continue to retain
24 that small-town character that defines the Town.

25 Areas of potential development in Loomis include lands within or near the
26 Downtown, particularly Town-owned lands along the south end of Taylor Road,
27 undeveloped lots adjacent to I-80, and the undeveloped area north of the Raley's
28 shopping center at I-80 and Horseshoe Bar Road. Each of these areas are within or
29 near the Downtown, and each include natural features or ~~urban~~ other challenges
30 that will affect their use, such as ponds, ravines and creeks, oak woodlands and
31 riparian habitat, rock outcroppings, or significant noise sources (railroad or I-80). The
32 Town will rely on the land use designations, zoning ordinance, and other

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1 development standards to ensure development results in growth that retains the
2 Town’s character, supports the Town’s Mission Statement, and enhances the Town.

3 Loomis’s commercial and industrial operations rely on interstate truck traffic rather
4 than rail traffic as in bygone eras; however, the rail system and interstate run
5 parallel to each other, maintaining clear corridors for commercial and industrial
6 access. Today’s commerce relies primarily on locally-serving commercial uses and
7 light manufacturing. The Market Analysis in Volume III, Chapter 6 provides detailed
8 data on the economic uses and trends in the Town and greater region. As discussed
9 in the Market Analysis, in the past decade, Loomis experienced more growth in the
10 office and industrial sectors with little growth in the retail sector. Employment
11 projections through 2040 reveal that office and industrial uses will continue to
12 experience the most growth and land availability and compatibility in these sectors
13 will impact land use patterns in the Town. Retail growth is expected, with some
14 capture of regional traffic at Sierra College Boulevard, the Taylor Road corridor, and
15 the Horseshoe Bar Road/I-80 interchange.

16 **LAND USE**

17 The purpose of a land use element is to provide an orderly plan for the general
18 distribution, location, and intensity of land uses ~~within the Town of Loomis~~. The
19 following section provides an overview of existing land uses ~~conditions~~ within the
20 Town of Loomis. Included are descriptions of the Town’s existing land uses, land use
21 designations, and zoning districts.

22 Data for this section was obtained from a combination of field surveys, secondary
23 data sources, and government documents dictating land use distribution in the
24 Town of Loomis, including the Town of Loomis General Plan (2001), the Town of
25 Loomis Zoning Ordinance, and assessor’s and Town parcel data.

26 **General Plan Land Use Designations**

27 Table 1-1 lists the acreage for each land use category under the Town’s current
28 General Plan Land Use Element. These land use categories are depicted on
29 Figure 1-2. Table 1-1 shows the projected units and population on vacant land based
30 on these land use categories.

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Table 1-1: Town of Loomis General Plan Acreage–Build-Out Projections

<u>General Plan Designation</u>	<u>Dwelling Units Per Gross Acre(s)</u>	<u>Persons/ Gross Acre¹</u>	<u>Gross Acres</u>	<u>Maximum Potential Dwelling Units</u>		<u>Projected Population</u>	
				<u>By Gross Acres</u>	<u>By Parcel Acres</u>	<u>By Units per Gross Acres</u>	<u>By Units per Parcel Acres</u>
RA-Residential Agricultural	1 unit/4.6 acres	0.58	2,186.27	360	310	950	810
RE-Residential Estates	1 unit/ 2.3 acres	1.15	796.49	260	90	690	240
RR-Rural Residential	1 unit/acre	2.66	310.42	230	160	620	430
RL-Residential Low-Density	2 units/acre	5	30.11	50	20	120	50
RM-Residential Single Family	2-6 units/acre	5 to 16	355.19	1,670	1,270	4,430	3,390
RMH-Residential Medium High Density	6-10 units/acre	16 to 27	114.17	860	550	2,280	1,460
RH-Residential High Density	10-20 units/acre	27 to 53	10.39	160	180	470	420
OP- Office & Professional	2-10 units/acre	5 to 27	16.14	120	120	320	320
GC-General Commercial	2-10 units/acre	5 to 27	130.54	980	900	2,600	2,390
TC-Town Center Commercial	20 units/acre	53	54.83	820	740	2,190	1,970
TD-Tourist Destination Commercial	2-10 units/acre	5 to 27	117.77	880	850	2,350	2,250
ILT-Limited Industrial	1 caretaker/parcel	0	37.64	0	50	0	120

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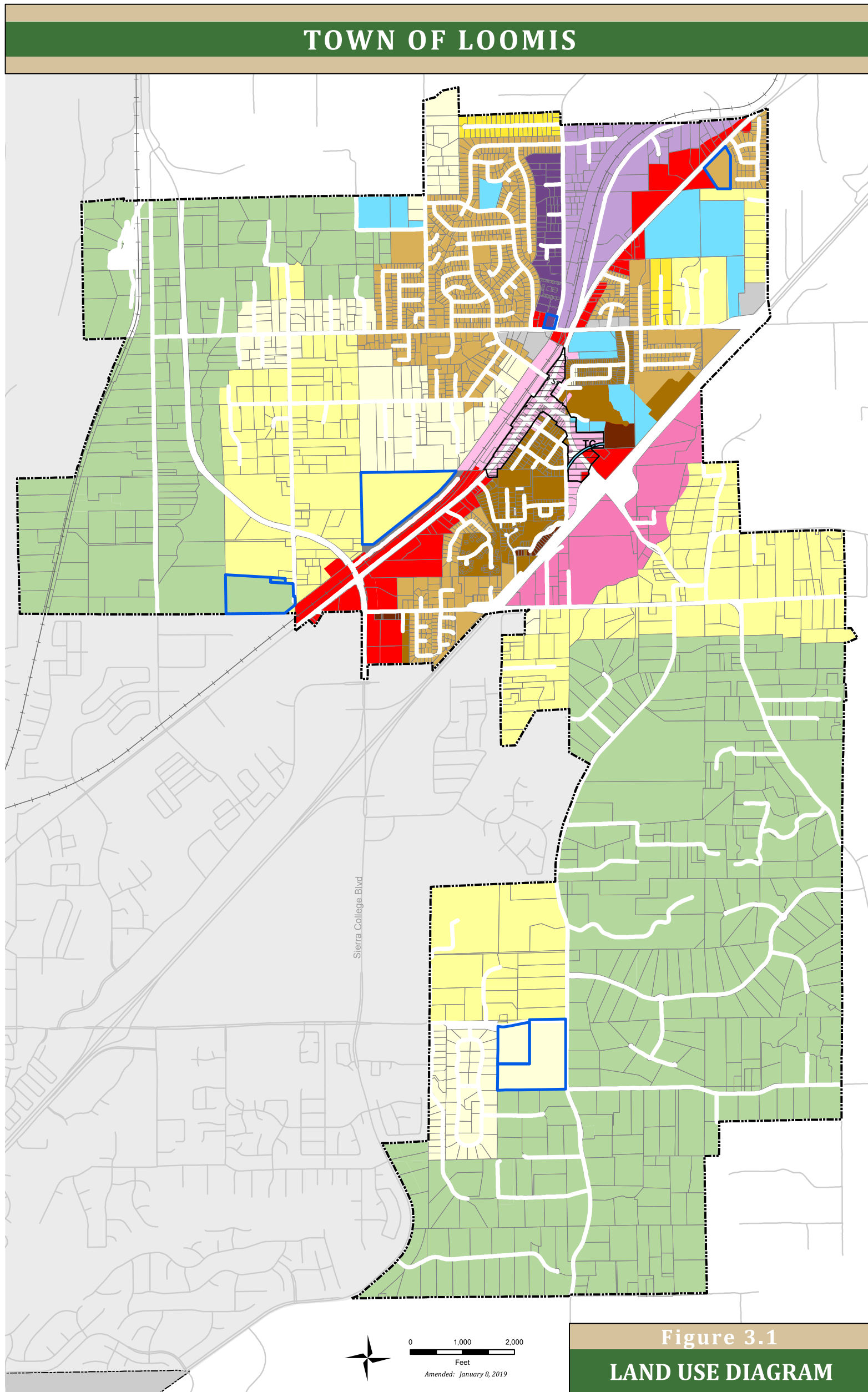
Table 1-1: Town of Loomis General Plan Acreage–Build-Out Projections							
<u>General Plan Designation</u>	<u>Dwelling Units Per Gross Acre(s)</u>	<u>Persons/ Gross Acre¹</u>	<u>Gross Acres</u>	<u>Maximum Potential Dwelling Units</u>		<u>Projected Population</u>	
				<u>By Gross Acres</u>	<u>By Parcel Acres</u>	<u>By Units per Gross Acres</u>	<u>By Units per Parcel Acres</u>
IL-Light Industrial	1 caretaker/parcel	0	108.31	0	70	0	180
P-Public Quasi Public	1 caretaker/parcel	0	101.27	0	14	0	40
OS-Open Space & Conservation	0 units	0	0	=	=	=	=
TOTAL			4,400	6,400	5,300	17,000	14,000

Source: Town of Loomis 2022

The maximum potential dwelling units and projected population for each General Plan land use designation is rounded to the nearest ten. The total maximum potential dwelling units and projected population is rounded to the nearest hundred.

1 Population density calculated using 2.66 persons per households for residential uses, based upon the 2015 Department of Finance estimate for Placer County.

1



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2 **Figure 1-2: General Plan Land Use Designations**

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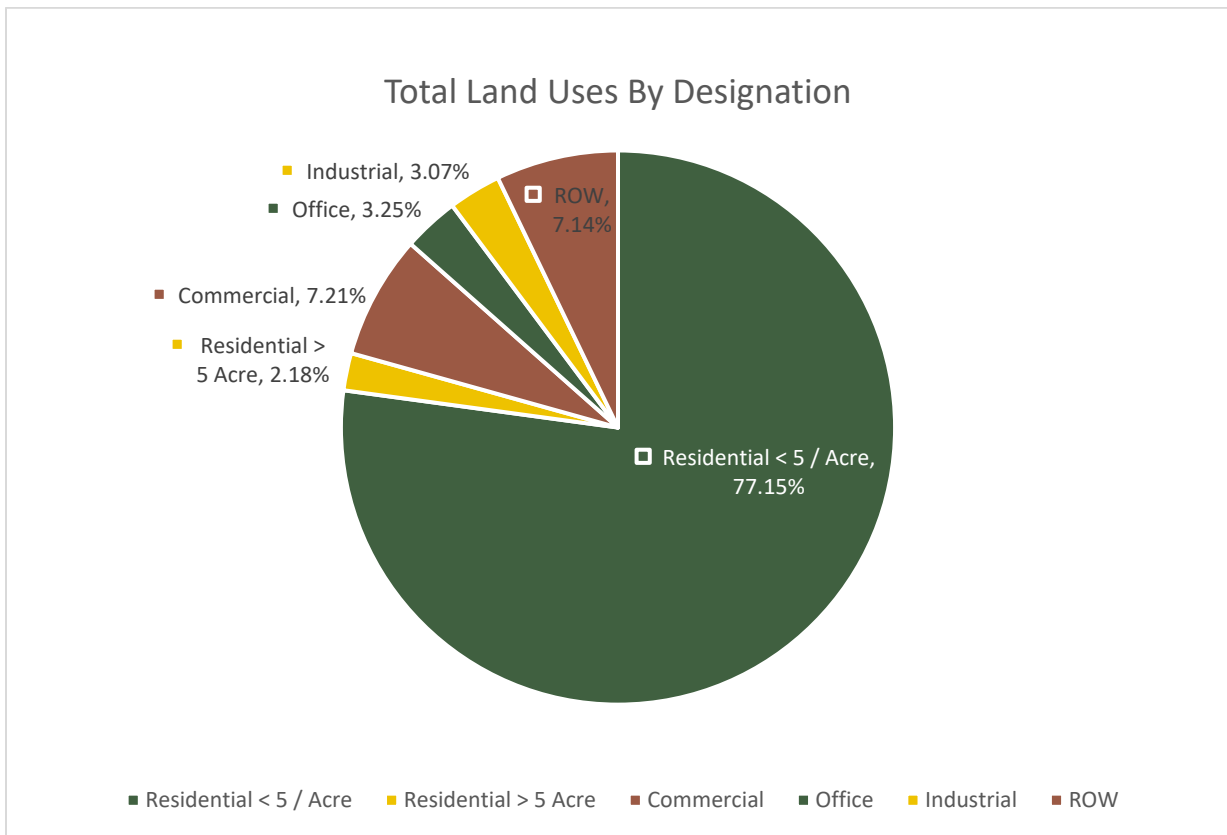
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LAND USE AND POPULATION

1 Figure 1-3 shows the percentage of land use designations in the Town organized
2 approximately by residential designations that allow less than and greater than 5
3 units per acre. While the commercial land use designations allow some residential
4 uses, these designations were kept separate for the purpose of this figure.

5 **Figure 1-3: General Plan Land Use Designations Breakdown**



8 The California Department of Finance Demographic Research Unit (DoF) provides an
9 annual estimate of population for each jurisdiction in the state. The January 1, 2020,
10 estimate for the Town is 6,888 residents and a total of 2,557 housing units (DoF, E-5
11 Report). The E-5 also estimates the Town's vacancy rate (4.3 percent), and persons
12 per unit (2.81), that have been used to project possible unit / population yield from

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1 development of the vacant land at the existing land use designations. The Town's
2 commercial areas also allow for residential uses of varying densities.

3 The Sacramento Area Association of Governments (SACOG) prepares the
4 Metropolitan Transportation Plan / Sustainable Communities Strategy (MTP/SCS)
5 that is used to plan for regional transit and transportation improvements. The
6 MTP/SCS is based on population and employment projections for each agency
7 within the region. The current projections used 2016 as a base year and projects a
8 2036 population for the Town of 8,692. To reach the SACOG projected population
9 the Town would need to average 1.46 percent annual growth from 2020 to 2036.
10 This is in contrast to the 0.69 percent annual growth experienced by the Town since
11 2010. For planning purposes, the SACOG population growth rate, and the historic
12 growth rate can represent the high and low estimates of population growth for this
13 planning effort.

14 Starting from the 2020 estimated population of 6,888, the total population estimates
15 for 2040 would range from 7,900 to 9,200. As can be seen in the buildout table, its
16 theoretically possible with full buildout of the existing vacant land, that a total
17 population of 8,900 could be accommodated.

18 **Existing Land Uses**

19 Land uses in the Town of
20 Loomis fall into four categories:
21 residential, commercial,
22 industrial, and public facilities.
23 Table 1-1 details the acreage
24 breakdown for each land use in
25 the Town of Loomis. Figure 1-2
26 illustrates existing land uses.



27 ***Residential***

28 Residential land uses make up the single largest land category in the Town. Existing
29 residential land uses make up over 3,800 acres, approximately 86 percent of the

1 total Town acreage. According to the 2021-2019 Housing Element, 13 acres of readily
2 available vacant or underutilized residentially zoned land exists within the Town. An
3 additional 104 acres of vacant commercially designated land could also support
4 housing units (approximately 879 total units within the vacant residential and
5 commercial parcels). The California Department of Finance reports there are 2,557
6 housing units in the Town of Loomis (2020). The Sacramento Area Council of
7 Governments (SACOG) projects a 2020 population of 12,000 residents for the Town
8 of Loomis. Based on an average household size of 2.81 persons (Department of
9 Finance) the Town will need to provide an additional 2,407 units, for a total of 4,612
10 housing units. This total assumes a vacancy rate of 4.4 percent (Department of
11 Finance). Given the amount of available land for residential use and current zoning
12 standards, the Town can accommodate this anticipated housing demand. Table 1-1
13 lists each of the residential zoning districts and their corresponding maximum
14 allowable number of housing units.

15 **Commercial**

16 Commercial land uses consist
17 of locations for the sale of
18 goods and services, as well as
19 professional and business
20 offices. Commercial areas
21 within the Town are located
22 primarily along the Taylor
23 Road and Horseshoe Bar
24 Road corridors, and near
25 Interstate 80. Commercial
26 areas south of Interstate 80



27 are largely undeveloped with commercial uses and contain existing single-family
28 residences. The commercial uses in that area are designated to attract or
29 accommodate visitors from the freeway, as opposed to the Downtown and General
30 Commercial uses along Taylor Road and Horseshoe Bar Road that would cater more
31 to the local community. Existing commercial land uses make up 220 acres.
32 Additionally, vacant commercial lands occupy an estimated 100 acres.

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1 **Industrial**

2 Industrial land uses consist of
3 manufacturing, processing, distribution,
4 storage, transportation, and other related
5 uses. Industrial areas within the Town are
6 located between King Road and the northern
7 Town limits, along the Union Pacific Railroad
8 line, Rippey Road, and Swetzer Road. Total
9 Industrial area is approximately 146 acres.
10 Vacant industrial uses make up an estimated
11 9 acres. There are no heavy industrial areas or operations within Loomis.



12 **Public Facilities**

13 Public facilities consist of publicly-held land
14 uses such as government offices, schools,
15 libraries, parks, open space, public safety
16 buildings, civic corporate yards, and utilities.
17 Existing public facilities make up 101 acres,
18 with 13 acres shown as vacant. (Table 1-1).



19 Open space land includes a golf course,
20 parks, agriculture, natural areas, and
21 miscellaneous recreation. It does not include
22 recreational facilities within school
23 boundaries. The Sunrise-Loomis
24 Neighborhood Park, at four acres, and the
25 one-acre Blue Anchor Park are the only
26 parks within the Town limits.



27 Table 1-2 lists the acreage of other
28 recreational facilities in or near Loomis that
29 are within school boundaries. These facilities
30 are included with the Public/Quasi-Public
31 land use category in Table 1-1.

Table 1-2: Other Recreational Facilities	
School Facilities	Acreage
Loomis Elementary School	3.5
Franklin Elementary School	4.2
H. Clarke Powers Elementary School	6.5
Del Oro High School	25.0

Source: Town of Loomis Parks and Recreation Element

1 **Right-of-Ways**

2 Two railroads' rights-of-way run through the Town of Loomis. The Union Pacific
3 Railroad corridor that runs along Taylor Road and Rippey Road varies in width from
4 200 to 360 feet. It contains some scattered commercial land uses. The other railroad
5 right-of-way runs north-south, east of Del Mar Road at the Western edge of Town.
6 Right-of-way also includes portions of some roadways in Town, as well as a few
7 areas along Taylor Road and I-80.

8 **Zoning**

9 Zoning districts are established in the Town's Zoning Ordinance and include
10 residential, commercial, industrial, and public zones. The Zoning Ordinance can
11 include one or more districts that correspond to each general plan land use
12 designation.

13 **DEMOGRAPHICS**

14 In order to effectively establish land use patterns and set policies regarding housing
15 and public services and facilities, the Town must have a thorough understanding of
16 who lives in the community and how the population has changed and is expected to
17 change in the future. This section examines the Town of Loomis' population trends.
18 The Housing Element setting and background data provide in-depth demographic
19 information, projections, and housing characteristics. The information contained in

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1 this section is taken from the U.S. Census, the California Department of Finance, and
2 the Town of Loomis Housing Element.

Table 1-3: Town of Loomis Population: 2000-2020			
Year	Town	County	Percent
2000	6,260	248,399	2.52%
2005	6,166	307,710	2.00%
2010	6,430	348,432	1.85%
2015	6,646	371,264	1.79%
2020	6,888	403,711	1.71%

Source: American Community Survey

3
4 According to the 2014-2018 American Community Survey, the population of Loomis
5 was 6,888 in 2018, a 21-percent increase in population since the 1990 Census. Since
6 1990, population growth in the Town of Loomis has slowed. Based on the
7 Department of Finance’s 2020 estimates, Loomis’ population is 6,888. According to
8 the Town’s population projections, the Town will see an increase in total population
9 to a projected 2040 total of 7,905 residents. This lower than the expected population
10 growth for Placer County, which is expected to reach 585,215 people by the year
11 2035, up from an estimated 348,432 in 2010.

12 ***Household Size***

13 The average household size for the Town of Loomis saw a decline between 1980 and
14 2010 but has recently began to increase again. The average household size in 1980
15 was 2.95 persons per household, while the estimate for 2020 (CA Department of
16 Finance) is 2.81. The estimated household size in Loomis remains larger than that of
17 Placer County, with an average household size of approximately 2.69 in 2020. This
18 number is expected to further decline as the number of senior and single-parent
19 households increases.

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Table 1-4: Town of Loomis Average Household Size		
Year	Loomis	Placer County
1990	2.94	2.64
2000	2.82	2.62
2010	2.72	2.60
2015	2.78	2.66
2020	2.81	2.69

Source: 2020 CA Department of Finance

1

2 ***Housing Units***

3 According to the Department of Finance, the Town of Loomis had 2,557 dwelling
 4 units in 2020, including nearly 2,200 single-family houses. With an anticipated
 5 population of 7,905 residents by the year 2040, the Town will need an additional 373
 6 dwelling units for a total of 2,928 housing units. This assumes a vacancy rate of 4.3
 7 percent, and an average household size of 2.69 persons.

Table 1-5: Town of Loomis Housing Units					
	Single Family	Multi-Family	Mobile Homes	Total	Vacancy Rate
2010	2,248	97	120	2,465	4.4%
2015	2,275	97	120	2,492	4.4%
2020	2,340	97	120	2,557	4.3%

Source: 2020 Department of Finance City/County Population and Housing Estimates

8

Table 1-6: Town of Loomis Estimated Housing Demand 2020-2040			
Year	Population	New Housing Units Needed	Total Housing Units
2020	6,888	N/A	2,557
2025	7,130	90	2,647
2030	7,380	91	2,738
2035	7,638	95	2,833
2040	7,905	97	2,928

Source: Town of Loomis, 2021

1

2 **SPHERE OF INFLUENCE**

3 A "Sphere of Influence" is a boundary established around Loomis and other
4 municipalities as required by State law by the Placer County Local Agency Formation
5 Commission (LAFCO). A Sphere of Influence defines areas into which towns, cities,
6 and special districts may expand through the annexation process. Currently, the
7 Sphere of Influence for Loomis is coterminous (the same as) the Town's corporate
8 boundary.

9 **REGIONAL PLANS & POLICIES**

10 The Town of Loomis and various regional agencies are undertaking special planning
11 efforts to address certain issues that are either not required to be addressed in the
12 general plan or cover a larger area. Table 1-7 identifies plans affecting land use,
13 growth and development in the Town of Loomis that are either regional in nature or
14 that deal with a particular governmental function.

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Table 1-7: Regional Plans				
Plan Name	Adoption Year	Geographic Scope	Responsible Agency	Link
Placer County General Plan	2013	Placer County	Placer County Planning Services	https://www.placer.ca.gov/2971/General-Plan-Community-Plans
Horseshoe Bar/Penryn Community Plan	1994	Northeast of the Town of Loomis	Placer County Planning Services	https://www.placer.ca.gov/3033/Horseshoe-Bar-Penryn-Community-Plan
Granite Bay Community Plan	2012	Granite Bay	Placer County Planning Services	https://www.placer.ca.gov/3032/Granite-Bay-Community-Plan
City of Rocklin General Plan	2012	Rocklin	Rocklin Planning Department	https://www.rocklin.ca.us/post/general-plan
2020 Metropolitan Transportation Plan/Sustainable Communities Plan (MTP/SCS)	2019	Sacramento Region	SACOG	https://www.sacog.org/2020-metropolitan-transportation-plansustainable-communities-strategy
2040 Regional Transportation Plan (RTP)	2021	Placer County	Placer County Transportation Planning Agency (PCTPA)	https://pctpa.net/rtp2040-2/
2018-2022 South Placer Municipal Utility District (SPMUD) Strategic Plan	2017	Western Placer County	SPMUD	https://spmud.ca.gov/strategic-plan

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Table 1-7: Regional Plans

Plan Name	Adoption Year	Geographic Scope	Responsible Agency	Link
Local (Multi-Jurisdiction) Hazard Mitigation Plan	2021	Placer County	All Placer County jurisdictions	https://www.placer.ca.gov/1381/Local-Hazard-Mitigation-Plan
Placer County Water Agency (PCWA) County-Wide Master Plan	2010	Placer County	PCWA	https://www.pcwa.net/business/cwmp
Dry Creek Watershed Flood Control Plan	2011	Dry Creek Watershed	Placer County Flood Control and Water Conservation District	https://www.placer.ca.gov/1640/Dry-Creek-Watershed-Plan
Placer County Conservation Program (PCCP)	2020	Placer County	Placer County Community Development	https://www.placer.ca.gov/3362/Placer-County-Conservation-Program

- MTP = Metropolitan Transportation Plan
- PCCP = Placer County Conservation Program
- PCWA = Placer County Water Agency
- RTP = Regional Transportation Plan
- SACOG = Sacramento Area Council of Governments
- SCS = Sustainable Communities Plan
- SPMUD = South Placer Municipal Utility District

Chapter

2

CIRCULATION & TRANSPORTATION



1 **CIRCULATION & TRANSPORTATION**

2 **INTRODUCTION**

3 **Purpose**

4 The update to the Circulation &
5 Transportation Element of the
6 General Plan is intended to reflect a
7 realistic assessment of
8 transportation infrastructure needs,
9 financial constraints, and the broader goals of the community.



10 The approach of this section is to identify current and future traffic conditions if the
11 ~~existing~~ General Plan is implemented. These baseline conditions will be used to
12 develop goals/objectives and to explore alternative land use and transportation
13 scenarios. The alternatives will then be tested to determine how well they meet the
14 established goals/objectives and how they perform with respect to financial
15 feasibility. The result will be a set of ~~preferred~~ transportation improvements that
16 reflects expected funding opportunities and constraints.

17 **Study Process**

18 The study presents an analysis of existing conditions and future baseline conditions
19 including a summary of the condition of the existing transportation system, and an
20 evaluation of future conditions if the ~~existing~~ General Plan is implemented
21 (i.e., future baseline conditions).

1 **EXISTING CONDITIONS**

2 **Transportation Setting**

3 Loomis is located approximately 25 miles northeast of the city of Sacramento and
4 about 90 miles southwest of Lake Tahoe, along Interstate 80 (I-80). Loomis is
5 situated in the Loomis Basin, which is part of the foothills of Placer County. The
6 adjacent city of Rocklin is directly west of the Town limits, and the unincorporated
7 Granite Bay community is directly south. I-80 is the primary interstate highway
8 providing regional access to San Francisco to the west, and Reno and the rest of the
9 United States to the east. Traffic to and from the I-80 corridor is served by
10 Horseshoe Bar Road and Sierra College Boulevard. I-80 runs diagonally through the
11 center of Loomis and divides the Town into two areas. The northwestern section
12 consists of higher-density residential development, existing retail, office and
13 industrial developments, bounded by larger, semi-rural residential lots. Within the
14 northwestern section is the Downtown area, which encompasses the portion of
15 Taylor Road between the intersections of Oak Street and Webb Street. The
16 southeastern section of the Town consists of rural, agricultural, and large-lot
17 residential areas.

18 Loomis is approximately 7.25 square miles in area and at an elevation of
19 approximately 400 feet. Based on data from the 2019 America Community Survey
20 (ACS), population in Loomis has increased from 6,260 in 2000 to 6,866 in 2019, a
21 0.49 percent compound annual growth rate increase. Figure 2-1 shows the study
22 area and vicinity map.

23 **Existing Roadway System**

24 The backbone roadway system serving the Town of Loomis has not changed
25 substantially since the rural community evolved in the 1800s. Prior to 1984, the
26 Loomis community remained in Placer County and utilized the County roadway
27 standards as the community grew and developed over time. In 1984, when the Town
28 incorporated, more urban street classifications and standards were adopted and
29 utilized within small and medium lot subdivisions and commercial/industrial

1 development. For larger-lot residential development, rural street classifications and
2 standards have been kept to help maintain the historic and semi-rural character of
3 the Town and community.

4 The existing physical and operational conditions for the Loomis roadway network
5 are shown in Figure 2-2 and described below. This description is organized by
6 roadway components, beginning with the regional roadway classification followed
7 by the existing conditions inventory, and existing conditions level of service. The
8 inventory of existing conditions consists of data collected for roadway pavement
9 conditions, speed surveys, and daily traffic volumes.

10 **Existing Roadway Classification**

11 A hierarchy of streets provides access to and from residential, commercial, and
12 industrial uses throughout Loomis. A route's design, including number of lanes
13 needed, is determined by its functional classification and its projected traffic levels
14 to achieve "safe and convenient movement at the development intensity anticipated
15 in the Land Use Element."

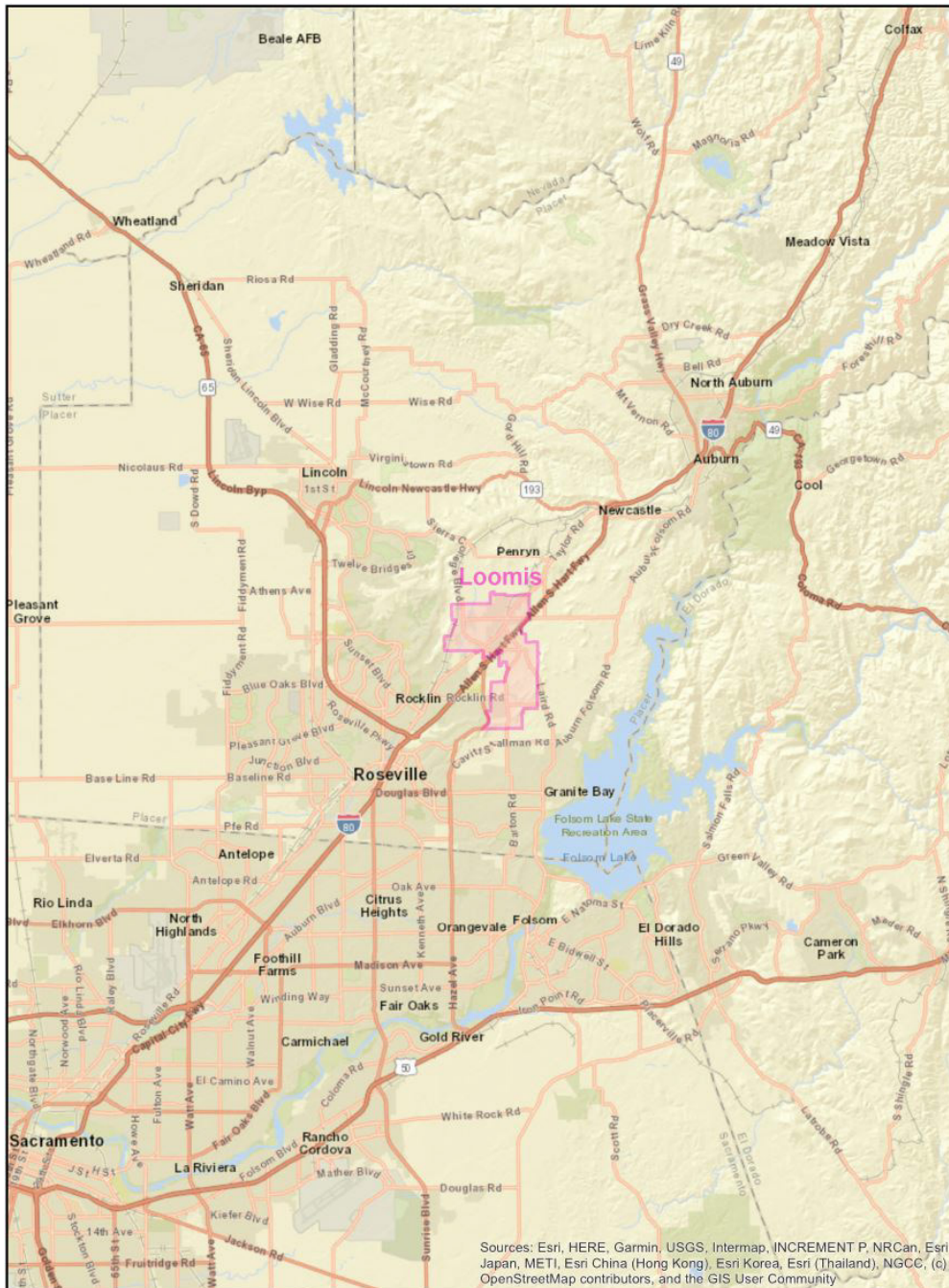
16 ***State Freeways/Highways***

17 Controlled access facilities whose junctions are free of at-grade crossing with other
18 roads, railways, or pedestrian pathways, and instead are served by interchanges are
19 classified as freeways. Freeway/highway speeds range from 55 to 70 miles per hour
20 (mph), and can be toll or non-toll roads. The following freeway services Loomis:

21 ***Interstate 80 (I-80)*** is a major transcontinental east-west interstate that traverses
22 across the northern United States. I-80 serves as the major inter-regional auto and
23 truck travel route that connects Loomis to Reno and beyond to the rest of the
24 country to the east, and the Sacramento and San Francisco areas to the west. I-80 is
25 a major recreational and commuter travel route, and within Loomis is a six-lane
26 divided freeway with a posted speed limit of 65 mph. Loomis has one full access
27 interchange at Horseshoe Bar Road. Roadways in Loomis also have access to the
28 Sierra College Boulevard interchange to the south, and the Penryn Road interchange
29 to the north.

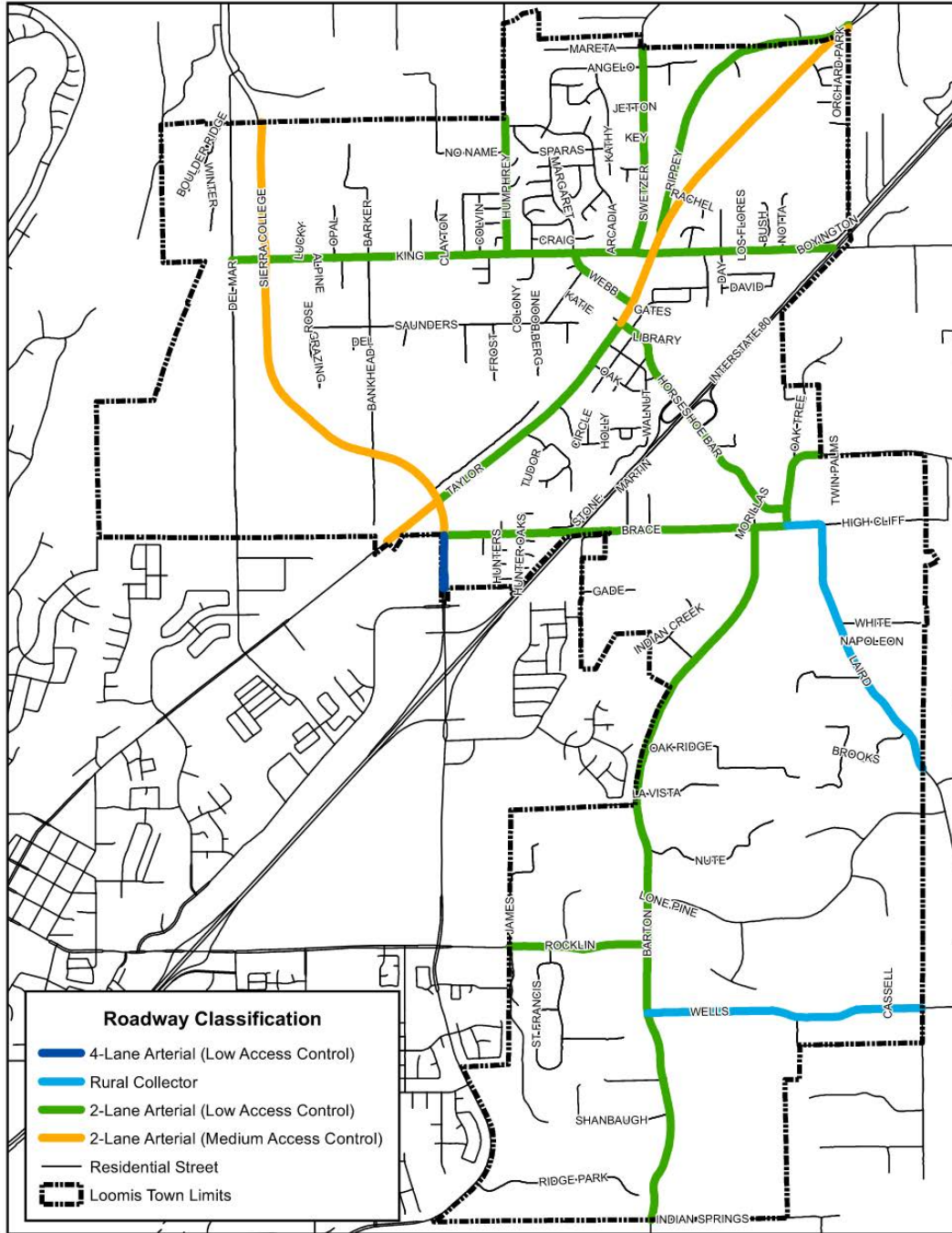
CIRCULATION & TRANSPORTATION

1 **Figure 2-1: Vicinity Map**



2

1 **Figure 2-2: Existing Functional Roadway Classification Map**



CIRCULATION & TRANSPORTATION

1 **Arterial Streets**

2 Arterial facilities serve to connect areas of major activity within the urban area of
3 Loomis and function primarily to distribute cross-town traffic from
4 freeways/highways to collector streets. Within Loomis, arterial streets are mostly
5 two-lane facilities with operating speeds ranging from 25 to 50 mph. The following
6 are descriptions of the major and minor arterials servicing the Town of Loomis:

7 **Taylor Road** is a major arterial that parallels I-80 to the west, from Eureka
8 Road in Roseville through Rocklin, Loomis, Penryn, Newcastle, and
9 terminating at State Route 193 (SR 193) near Auburn. Prior to the
10 construction of I-80, Taylor Road, as U.S. 40, was part of the National Highway
11 System. Within Loomis, Taylor Road has generally one lane in each direction
12 with center turn channelization.

13 **Horseshoe Bar Road** is an east-west arterial from Taylor Road to Folsom Lake
14 in unincorporated Placer County. Horseshoe Bar Road has one lane in each
15 direction.

16 **King Road** is an east-west arterial from Del Mar Avenue across I-80 to beyond
17 Folsom-Auburn Road. King Road has one lane in each direction.

18 **Sierra College Boulevard** is a major arterial from SR 193, south through
19 Loomis, Rocklin, and Roseville, and into Sacramento County, where it
20 becomes Hazel Avenue. Sierra College Boulevard has one lane in each
21 direction from SR 193 to Taylor Road. From Taylor Road, through Loomis,
22 Sierra College Boulevard is four lanes with turn channelization to Granite
23 Drive.

24 **Barton Road** is a north-south arterial from Brace Road into Granite Bay in
25 unincorporated Placer County. Barton Road has one lane in each direction.

26 **Brace Road** is an east-west arterial from Sierra College Boulevard across I-80
27 to Horseshoe Bar Road. Brace Road has one lane in each direction.

1 **Collectors**

2 Collectors function as connector routes between local and arterial streets and
3 provide access to residential, commercial, and industrial property. Collector streets
4 within Loomis are facilities with operating speeds around 30 mph and maximum
5 capacity of 10,000 vehicle-trips per day.

6 **Swetzer Road** is a two-lane collector street from King Road to beyond Loomis Town
7 limits.

8 **Local Streets**

9 Local streets provide direct access to properties and allow for localized movement of
10 traffic. Local streets are characterized by low daily traffic volumes of less than 4,500
11 and operating speeds of 25 to 35 mph.

12 **Existing Traffic Volumes**

13 The Town of Loomis roadway facilities were evaluated for 38 key segments on a
14 daily basis using Average Daily Traffic (ADT) counts ~~collected by Omni-Means on~~
15 ~~Tuesday September 30 and Thursday October 2, 2014~~ obtained using a StreetLight
16 Data subscription. ADT counts were obtained for all Tuesdays, Wednesdays, and
17 Thursdays in September and October 2019, excluding holidays, and averaged. The
18 existing conditions traffic operations and deficiencies were identified by generating
19 a “Level of Service” (LOS) determination. Level of Service is a qualitative measure of
20 traffic operating conditions, whereby a letter grade “A” through “F” is assigned to an
21 intersection or roadway segment representing progressively worsening traffic
22 conditions.

23 Roadway classifications were identified for the 38 key segments and were used to
24 calculate the existing roadway LOS. The LOS was calculated using the roadway
25 capacity thresholds from *Sacramento County Traffic Impact Analysis Guidelines* as
26 presented in Table 2-1.

27

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Table 2-1: Roadway Classification Capacity Thresholds

Facility Type		# of Lanes	Maximum Volume for Given Level of Service				
			A	B	C	D	E
Residential	R	2	600	1,200	2,000	3,000	4,500
Rural Collector ¹	RC	2	3,000	5,000	6,500	8,000	9,000
Two-Lane Low Access Control ²	AL 2	2	9,000	10,500	12,000	13,500	15,000
Two-Lane Low Access Control with Roundabouts ³	ALR 2	2	12,000	14,000	14,500	16,000	18,000
Four-Lane Low Access Control ²	AL 4	4	18,000	21,000	24,000	27,000	30,000
Six-Lane Low Access Control ²	AL 6	6	27,000	31,500	36,000	40,500	45,000
Two-Lane Moderate Access Control ⁴	AM 2	2	10,800	12,600	14,400	16,200	18,000
Two-Lane Moderate Access Control with Roundabouts ⁵	AMR 2	2	13,500	15,750	18,000	20,000	22,500
Four-Lane Moderate Access Control ⁴	AM 4	4	21,600	25,200	28,800	32,400	36,000
Six-Lane Moderate Access Control ⁴	AM 6	6	32,400	37,800	43,200	48,600	54,000

Source: Sacramento County 2020

(<https://sacdot.saccounty.net/Documents/A%20to%20Z%20Folder/Traffic%20Analysis/Transportation%20Analysis%20Guidelines%2009.10.20.pdf>)

Notes:

¹ Rural Collector is 22' - 28' of Pavement, no curb

² Low Access Control is 4+ stops/mile, frequent driveway access, 25-30 mph

³ Low Access Control with Roundabouts, frequent driveway access, 25-30 mph

⁴ Moderate Access Control, limited (right in/right out driveway access, 25-35 mph

⁵ Moderate Access Control with Roundabouts, limited (right in/right out) driveway access, 25-35 mph

AL 2: Two-Lane Low Access Control

AL 4: Four-Lane Low Access Control

AL 6: Six-Lane Low Access Control

ALR 2: Two-Lane Low Access Control with Roundabouts

AM 2: Two-Lane Moderate Access Control

AM 4: Four-Lane Moderate Access Control

AM 6: Six-Lane Moderate Access Control

AMR 2: Two-Lane Moderate Access Control with Roundabouts

R: Residential

RC: Rural Collector

1 **Level of Service Thresholds**

2 The *Town of Loomis General Plan Circulation Element* specifies minimum LOS
3 standards for all streets and intersections within Loomis, as follows:

4 **Level of Service Policy:** In order to minimize congestion, maintain Level of Service C
5 on all roads and intersections within the Town of Loomis. Level of Service D may be
6 allowed in conjunction with development approved within the Town as an exception
7 to this standard, at the intersections of King and Taylor, Horseshoe Bar Road and
8 Taylor, Horseshoe Bar Road and I-80, Sierra College and Brace Road, and Webb and
9 Taylor, when:

- 10 1. The deficiency is substantially caused by “through” traffic, which neither
11 begins nor ends in Loomis, and is primarily generated by non-residents; or
- 12 2. The deficiency will be temporary (less than three years), and a fully-funded
13 plan is in place to provide the improvements needed to remedy the
14 substandard condition.

15 **Mitigation of Impacts from Unincorporated Area Projects:** Notwithstanding any
16 other General Plan policy or provisions, in the event that significant adverse impacts
17 will result from the construction of large developments on the Town's perimeter, the
18 Town shall make every reasonable effort to have the developers adequately mitigate
19 the adverse impacts.

20 **Existing Transportation Conditions and Operations**

21 Table 2-2 summarizes the existing number of travel lanes, posted speed limit,
22 pavement conditions, and 85th percentile speed of these roadways.

23 **Pavement conditions** were rated as ~~very good, good, fair, poor, or very poor~~ failed
24 based on the results of a condition survey performed by NCE in February 2020,
25 depending on the ~~The pavement condition rating generally indicates the frequency~~
26 of observed potholes, cracks, and pavement overlays, and other distresses in the
27 roadway segments based on field observations. The 85th percentile speeds are

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1 results of a speed survey conducted by Omni-Means in September and October,
2 2014 for the roadway segments.

3 **Posted Speed Limits** range from 25 miles per hour on roadways with fronting
4 residences such as Bankhead Road to 55 miles per hour on limited access major
5 arterials such as Sierra College Boulevard. The segments of Taylor Road and
6 Horseshoe Bar Road near the Downtown area, ~~and~~ Sierra College Boulevard near
7 Taylor Road, and Rocklin Road near Barton Road carry the greatest volumes of
8 traffic (approximately between 10,000 and ~~220,000~~ 220,000 vehicles per day). Traffic volumes
9 on Barton Road, Brace Road, King Road, Laird Road, Swetzer Road, and Webb Street
10 range from approximately 1,900 to ~~6,200~~ 8,000 vehicles per day. In some or all
11 segments of Bankhead Road, Brace Road, Del Mar Avenue, Webb Street, and Sierra
12 College Boulevard, pavement conditions are poor and result in difficult driving
13 conditions. Travel speeds through Downtown (Taylor Road, King Road, and Webb
14 Street) and residential areas such as Barton Road, Humphrey Road, and Laird Road,
15 are also perceived as excessive by many for pedestrian and bicycle safety.

16 Table 2-3 summarizes the existing **roadway segment operations** (based on
17 capacities in Table 2-1), and presents the following:

- 18 > Existing Level of Service
- 19 > Daily Volume to Capacity Ratio
- 20 > Average Daily Traffic
- 21 > Number of Lanes
- 22 > Roadway Classification

23 Currently, the following ~~five~~ three roadway segments are operating at unacceptable
24 LOS and are bolded in Table 2-3:

- 25 > Horseshoe Bar Road - Taylor Road to I-80 Bridge
- 26 > Rocklin Road – James Drive to Barton Road
- 27 > Taylor Road - Horseshoe Bar Road to King Road

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- 1 Figure 2-3 presents the existing average daily traffic (ADT) for the study roadway
- 2 segments within Loomis.

Table 2-2: Existing Roadway System				
Street	Roadway Segments	Posted Speed Limit	Pavement Condition	85th Percentile Speed
Bankhead Rd	King Rd to Saunders Ave	25	Poor Fair	26
	Saunders Ave to Sierra College Blvd	25	Poor Fair	30
Barton Rd	Brace Rd to Gold Trail Way	40	Very Good Fair	46
	Gold Tail Way to Rocklin Rd	40	Very Good	49
	Rocklin Rd to Indian Springs Rd	40	Very Good	50
Brace Rd	Sierra College Blvd to I-80 Bridge	35	Poor Failed	38
	I-80 Bridge to Laird Rd	40	Poor Good	47
Del Mar Ave	King Rd to N. Town Limit	35	Poor	35
	S. Town Limit to King Rd	35	Poor Fair	33
Horseshoe Bar Rd	Taylor Rd to I-80 Bridge	25	Good Fair	32
	I-80 Bridge to Horseshoe Bar Rd	35	Good Fair	38
	Brace Rd to N. Town Limit	35	Good Fair	38
Humphrey Rd	Arcadia Ave to N. Town Limit	25	Very Good Fair	42
	King Rd to Arcadia Ave	35	Very Good Fair	35
King Rd	Del Mar Ave to Bankhead Rd	40	Failed Very Good	42
	Bankhead Rd to Humphrey Rd	35	Very -Good	40
	Humphrey Rd to Taylor Rd	35	Very Good	37

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Table 2-2: Existing Roadway System				
Street	Roadway Segments	Posted Speed Limit	Pavement Condition	85th Percentile Speed
	Taylor Rd to Bush Ln	35	Fair Good	41
	Bush Ln to I-80 Bridge	35	Poor Good	46
Laird Rd	Brace Rd to White Ln	35	Poor Good	41
	White Ln to S. Town Limit	35	Poor Very Good	50
Rippey Rd	Taylor Rd to N. Town Limit	30	Fair Very Good	41
Rocklin Rd	James Dr to Barton Rd	40	Fair Very Good	50
Saunders Ave	Bankhead Rd to McAllen Ln	25	Very Good	36
	McAllen Ln to Webb St	25	Very Good	29
Sierra College Blvd	N. Town Limit to King Rd	50	Fair Poor	56
	King Rd to Bankhead Rd	50	Poor Very Good	54
	Bankhead Rd to Brace Rd	45	Fair Very Good	47
	Brace Rd to N. Granite Dr	40	Very Good	44
Swetzer Rd	King Rd to N. Town Limit	35	Poor Good	35
Taylor Rd	S. Town Limit to Sierra College Blvd	40	Very Good	42
	Sierra College Blvd to Circle Dr	40	Very Good	41
	Circle Dr to Horseshoe Bar Rd	25	Fair Good	30
	Horseshoe Bar Rd to King Rd	25	Fair Very Good	32

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Table 2-2: Existing Roadway System				
Street	Roadway Segments	Posted Speed Limit	Pavement Condition	85th Percentile Speed
	King Rd to N. Town Limit	40	Fair Very Good	47
Webb St	King Rd to Taylor Rd	25	Good Poor	35
Wells Ave	Barton Rd to Rickety Rack Rd	40	Fair Very Good	49
	Rickety Rack Rd to Morgan Place	40	Fair Very Good	43

1

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Table 2-3: Roadway Segment Operations – Existing Conditions (2014)						
Street	Roadway Segments	Roadway Classification	Number of Lanes	Average Daily Traffic	Daily Volume to Capacity Ratio (v/c)*	Level of Service
Bankhead Rd	King Rd to Saunders Ave	R	2	409 1,565	0.09 0.09	A
	Saunders Ave to Sierra College Blvd	R	2	673 2,096	0.15 0.15	B
Barton Rd	Brace Rd to Gold Trail Way	AL 2	2	1,935 3,833	0.13 0.13	A
	Gold Tail Way to Rocklin Rd	AL 2	2	2,500 3,814	0.17 0.15	A
	Rocklin Rd to Indian Springs Rd	AL 2	2	7,952 10,536	0.53 0.49	A
Brace Rd	Sierra College Blvd to I-80 Bridge	AL 2	2	4,521 7,249	0.30 0.24	A
	I-80 Bridge to Laird Rd	AL 2	2	3,555 5,537	0.24 0.19	A
Del Mar Ave	King Rd to N. Town Limit	R	2	212 1,135	0.05 0.05	A
	S. Town Limit to King Rd	R	2	719 2,560	0.16 0.14	B
Horseshoe Bar Rd	Taylor Rd to I-80 Bridge	AL 2	2	16,536 16,796	1.10 0.94	F E

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Table 2-3: Roadway Segment Operations – Existing Conditions (2014)

Street	Roadway Segments	Roadway Classification	Number of Lanes	Average Daily Traffic	Daily Volume to Capacity Ratio (v/c)*	Level of Service
	I-80 Bridge to Horseshoe Bar Rd	AL 2	2	9,578 11,525	0.64 0.53	BA
	Brace Rd to N. Town Limit	AL 2	2	6,427 6,735	0.43 0.34	A
Humphrey Rd	Arcadia Ave to N. Town Limit	AL 2	2	1,232 2,882	0.08 0.08	A
	King Rd to Arcadia Ave	AL 2	2	2,721 4,054	0.18 0.18	A
King Rd	Del Mar Ave to Bankhead Rd	AL 2	2	2,988 4,988	0.20 0.2	A
	Bankhead Rd to Humphrey Rd	AL 2	2	3,188 5,215	0.21 0.21	A
	Humphrey Rd to Taylor Rd	AL 2	2	5,521 6,807	0.37 0.37	A
	Taylor Rd to Bush Ln	AL 2	2	5,629 8,140	0.38 0.32	A
	Bush Ln to I-80 Bridge	AL 2	2	5,684 8,062	0.38 0.33	A
Laird Rd	Brace Rd to White Ln	RC	2	4,673 9,248	0.52 0.45	B
	White Ln to S. Town Limit	RC	2	4,412 8,341	0.49 0.43	B

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Table 2-3: Roadway Segment Operations – Existing Conditions (2014)						
Street	Roadway Segments	Roadway Classification	Number of Lanes	Average Daily Traffic	Daily Volume to Capacity Ratio (v/c)*	Level of Service
Rippey Rd	Taylor Rd to N. Town Limit	AL 2	2	<u>802</u> 1,428	<u>0.05</u> 0.05	A
Rocklin Rd	James Dr to Barton Rd	AL 2	2	<u>13,479</u> 12,159	<u>0.90</u> 0.78	<u>DC</u>
Saunders Ave	Bankhead Rd to McAllen Ln	R	2	<u>378</u> 1,178	<u>0.08</u> 0.07	A
	McAllen Ln to Webb St	R	2	<u>919</u> 2,208	<u>0.20</u> 0.17	B
Sierra College Blvd	N. Town Limit to King Rd	AM 2	2	<u>12,179</u> 15,495	<u>0.68</u> 0.63	B
	King Rd to Bankhead Rd	AM 2	2	<u>11,372</u> 14,363	<u>0.63</u> 0.59	<u>BA</u>
	Bankhead Rd to Brace Rd	AM 2	2	<u>12,955</u> 15,320	<u>0.72</u> 0.67	<u>CB</u>
	Brace Rd to N. Granite Dr	AL 4	4	<u>22,010</u> 28,329	<u>0.73</u> 0.67	<u>CB</u>
Swetzer Rd	King Rd to N. Town Limit	AL 2	2	<u>6,261</u> 6,512	<u>0.42</u> 0.42	A
Taylor Rd	S. Town Limit to Sierra College Blvd	AM 2	2	<u>11,463</u> 15,569	<u>0.64</u> 0.61	B

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Table 2-3: Roadway Segment Operations – Existing Conditions (2014)

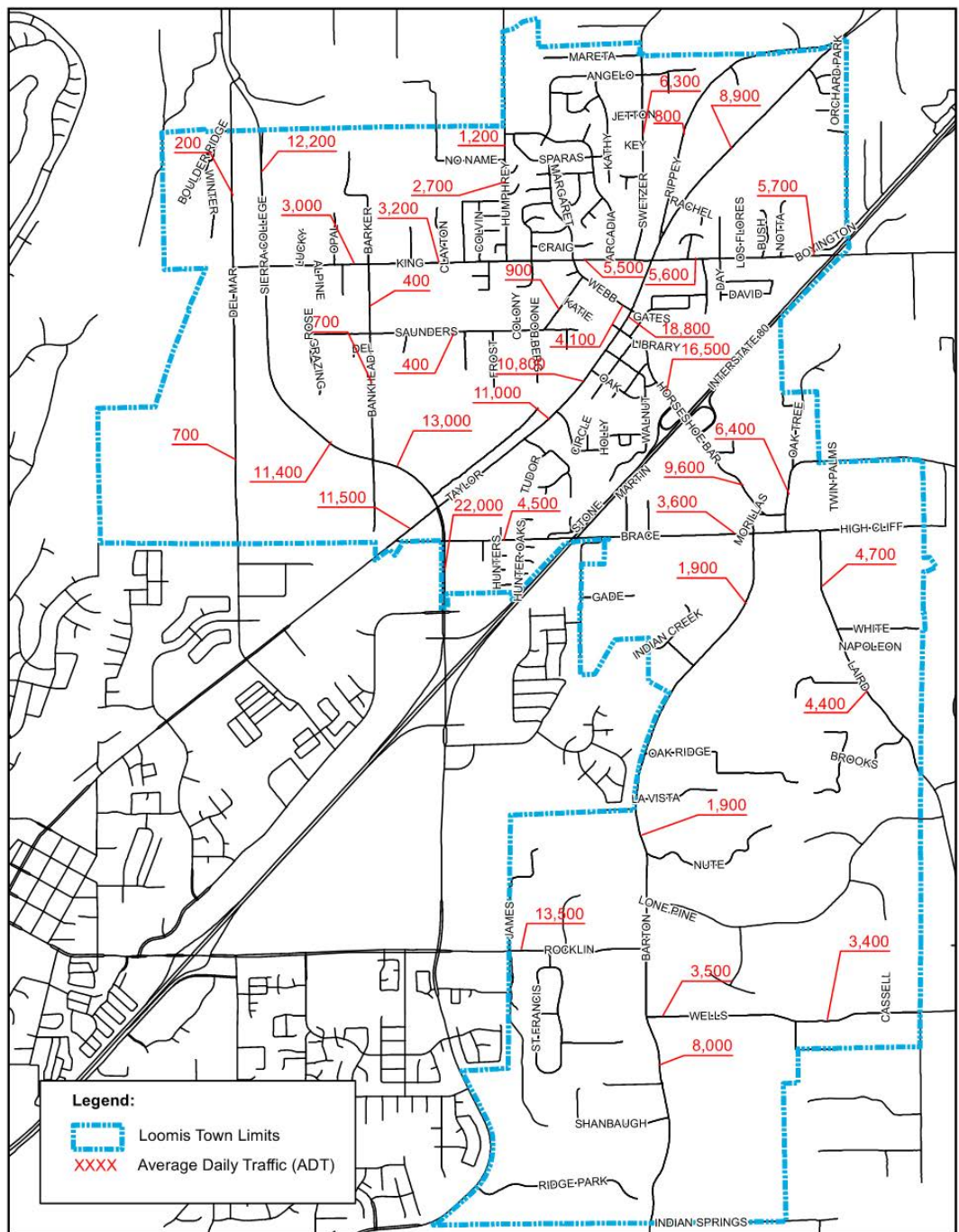
Street	Roadway Segments	Roadway Classification	Number of Lanes	Average Daily Traffic	Daily Volume to Capacity Ratio (v/c)*	Level of Service
	Sierra College Blvd to Circle Dr	AM 2	2	11,045 14,579	0.61 0.58	<u>BA</u>
	Circle Dr to Horseshoe Bar Rd	AL 2	2	10,775 14,005	0.72 0.66	<u>CB</u>
	Horseshoe Bar Rd to King Rd	AL 2	2	18,753 21,903	1.25 OC	F
	King Rd to N. Town Limit	AM 2	2	8,881 8,984	0.49 0.41	A
Webb St	King Rd to Taylor Rd	AL 2	2	4,121 6,096	0.27 0.26	A
Wells Ave	Barton Rd to Rickety Rack Rd	RC	2	3,497 5,497	0.39 0.29	<u>BA</u>
	Rickety Rack Rd to Morgan Place	RC	2	3,372 4,995	0.37 0.27	<u>BA</u>

Notes:

- AL 2: 2 Lane Arterial Low Access Control (4+ stops/mile, frequent driveway access, 25-35 mph)
- AL 4: 4 Lane Arterial Low Access Control (4+ stops/mile, frequent driveway access, 25-35 mph)
- AM 2: 2 Lane Arterial Moderate Access Control (2-4 stops/mile, limited driveway access, 35-45 mph)
- R: Residential
- RC: Rural Collector

* Volume to capacity ratio is the volume of current traffic in relation to the maximum amount of traffic the roadway can safely accommodate. "OC" means Over Capacity.
BOLD = Roadway Segment LOS is currently worse than the Town's minimum LOS policy of LOS "C."

1 **Figure 2-3: Existing Average Daily Traffic**



MAY 2022

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1 **Levels of Service** have been calculated for all intersection control types using the
2 methodologies documented in the Transportation Research Board publication,
3 *Highway Capacity Manual, Sixth Edition* (HCM 6). For signalized intersections, all-way-
4 stop-controlled (AWSC) intersections, and roundabouts, the intersection delays and
5 Levels of Service are average values for all intersection movements. For two-way-
6 stop-controlled (TWSC) intersections and one-way-stop-controlled (OWST)
7 intersections, the intersection delays and levels of service are representative of
8 those for the worst-case approach. Level of service criteria for different types of
9 intersection controls are outlined in Table 2-4. This methodology determines the
10 level of service by computing the average delay per vehicle and comparing the
11 results to the thresholds shown in Table 2-4.

12 Table 2-5 shows the existing AM and PM peak hour levels of service for selected
13 intersections on the major circulation system serving the Town of Loomis. Available
14 existing traffic signals are located on Sierra College Boulevard at the I-80 eastbound
15 and westbound ramps intersections, Granite Drive, Brace Road, and Taylor Road.
16 Traffic signals are located on Horseshoe Bar Road at the I-80 westbound ramps
17 intersection and Taylor Road. Traffic signals are located on King Road at Swetzer
18 Road and Taylor Road. The remaining study intersections are stop-controlled.

19 AM and PM peak-hour intersection turning movement counts used in this analysis
20 were obtained from StreetLight Data based on data from September and October,
21 2019, supplemented with other available historical traffic counts in September, 2013
22 and March, 2014. As evidenced illustrated in Table 2-5, the stop-controlled
23 intersections of Horseshoe Bar Road/I-80 Eastbound Ramps and Taylor Road/Webb
24 Street fall below acceptable levels of service and meet traffic signal warrants for
25 future signalization. The signalized intersection of Taylor Road/King Road falls below
26 acceptable levels of service as well. The intersection of Horseshoe Bar
27 Road/Horseshoe Bar Road currently meets signal warrants but operates at
28 acceptable LOS C.

29 ~~Traffic signals are located on Taylor Road at Sierra College Boulevard, Horseshoe Bar~~
30 ~~Road, and King Road. Traffic signals are also located on Sierra College Boulevard at~~
31 ~~the I-80 eastbound and westbound ramps intersections, Granite Drive, Brace Road,~~
32 ~~King Road, and on Horseshoe Bar Road at the I-80 westbound ramps intersection.~~
33 ~~The remaining study intersections are stop-controlled.~~

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Table 2-4: Intersection Level of Service Definitions						
Level of Service	Type of Flow	Delay	Maneuverability	Stopped Delay/Vehicle (sec)		
				Signalized	Roundabout	Stop Control
A	Stable Flow	Very slight delay. Progression is very favorable, with most vehicles arriving during the green phase not stopping at all.	Turning movements are easily made, and nearly all drivers find freedom of operation.	≤ 10.0	≤ 10.0	≤ 10.0
B	Stable Flow	Good progression and/or short cycle lengths. More vehicles stop than for LOS A, causing higher levels of average delay.	Vehicle platoons are formed. Many drivers begin to feel somewhat restricted within groups of vehicles.	> 10 and ≤ 20.0	> 10 and ≤ 15.0	> 10 and ≤ 15.0
C	Stable Flow	Higher delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant, although many still pass through the intersection without stopping.	Back-ups may develop behind turning vehicles. Most drivers feel somewhat restricted.	> 20 and ≤ 35.0	> 15 and ≤ 25.0	> 15 and ≤ 25.0

Table 2-4: Intersection Level of Service Definitions

Level of Service	Type of Flow	Delay	Maneuverability	Stopped Delay/Vehicle (sec)		
				Signalized	Roundabout	Stop Control
D	Approaching Unstable Flow	The influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high volume-to-capacity ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.	Maneuverability is severely limited during short periods due to temporary back-ups.	> 35 and ≤ 55.0	> 25 and ≤ 35.0	> 25 and ≤ 35.0
E	Unstable Flow	Generally considered to be the limit of acceptable delay. Indicative of poor progression, long cycle lengths, and high volume-to-capacity ratios. Individual cycle failures are frequent occurrences.	There are typically long queues of vehicles waiting upstream of the intersection.	> 55 and ≤ 80.0	> 35 and ≤ 50.0	> 35 and ≤ 50.0

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Table 2-4: Intersection Level of Service Definitions

Level of Service	Type of Flow	Delay	Maneuverability	Stopped Delay/Vehicle (sec)		
				Signalized	Roundabout	Stop Control
F	Forced Flow	Generally considered to be unacceptable to most drivers. Often occurs with over saturation. May also occur at high volume-to-capacity ratios. There are many individual cycle failures. Poor progression and long cycle lengths may also be major contributing factors.	Jammed conditions. Back-ups from other locations restrict or prevent movement. Volumes may vary widely, depending principally on the downstream back-up conditions.	> 80.0	> 50.0	> 50.0

7

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Table 2-5: Peak Hour Intersection Operations – Existing Conditions								
#	Intersection	Control Type ^{1,2}	Target LOS	Delay	LOS	Delay	LOS	Warrant Met? ³
1	Sierra College Boulevard/I-80 EB Ramps	Signal	C	17.3 21.7	BC	19.6 16.8	B	-
2	Sierra College Boulevard/I-80 WB Ramps	Signal	C	15.3 16.9	B	23.6 20.7	C	-
3	Sierra College Boulevard/Granite Drive	Signal	C	22.8 25.3	C	25.9 22.9	C	-
4	Sierra College Boulevard/Brace Road	Signal	C	10.6 13.7	B	13.1 14.4	B	-
5	Sierra College Boulevard/Taylor Road	Signal	C	25.0 28	C	33.0 26.8	C	-
6	Horseshoe Bar Road/Laird Rd/Horseshoe Bar Road	AWSC	C	15.5 12.3	CB	21.2 19.4	C	Yes (PM)
7	Horseshoe Bar Road/I-80 EB Ramps	TWOWSC	C	98.7 18.3	FC	135.3 35.3	FE	Yes
8	Horseshoe Bar Road/I-80 WB	Signal	C	17.2 19.8	B	17.6 20.5	BC	-
9	Horseshoe Bar Road/Library Drive	TWOWSC	C	24.7 17.5	C	21.0 23.9	C	<u>No</u>
10	Horseshoe Bar Road/Taylor Road	Signal	C	27.0 30.2	C	30.2 33.8	C	-
11	Taylor Road/Webb Street	TWSC	C	22.0 23.8	C	26.5 29.9	D	Yes (PM)
12	Taylor Road/King Road	Signal	C	26.3 33.8	C	42.3 20.8	DC	-
13	King Road/Swetzter Road	Signal TWSC	C	5.7 4	AB	7.9 6.0	A	-
14	King Road/Boyington Road	TWOWSC	C	15.9 18.7	C	11.2 10.9	B	<u>No</u>

Source: Wood Rodgers 2022

Notes:

1. AWSC = All Way Stop Control; TWSC = Two Way Stop Control; OWSC = One Way Stop Control; RNDBT = Roundabout
 2. LOS= Delay based on worst minor street approach for TWSC intersections, average of all approaches for AWSC, and Signal, RNDBT
 3. Warrant= Based on California MUTCD Warrant 3
- BOLD** = Intersection LOS is currently worse than the Town's minimum LOS policy of LOS "C."

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1 ~~Table 2-5 shows that each intersection~~ The remaining study intersections currently
2 operates at LOS C or better during the AM and PM peak hours ~~with the exception of~~
3 ~~Horseshoe Bar Road/I-80 Eastbound Ramps and Taylor Road/Webb Street~~
4 ~~intersections, which operate at LOS E and LOS D during the PM peak hour,~~
5 ~~respectively.~~

6 Field observations indicate that the Taylor Road/King Road ~~this~~ intersection
7 ~~(King/Taylor)~~ actually operates at LOS E or F during the peak 30 minutes in the
8 morning when school is in session. To avoid this congested intersection, many
9 motorists use Webb Street to travel between northwest Loomis and the Downtown
10 area.

11 Although the ~~Taylor Road/Horseshoe Bar Road/Taylor Road~~ intersection operates at
12 LOS C or better during each peak hour, field observations indicated for a duration
13 within the peak hours significant queuing does occur ~~of for the~~ northbound right-
14 turn vehicles (queues extended beyond Laird Street), eastbound through vehicles,
15 and westbound left-turn vehicles (queues exceeded the available turn lane storage).

16 The presence of the Union Pacific Railroad tracks limits access between northwest
17 Loomis and the Downtown area. At-grade crossings are currently provided at King
18 Road, Webb Street, and Sierra College Boulevard. Union Pacific Railroad
19 representatives and the Loomis Fire Protection District are concerned about the
20 close spacing (about 1,000 feet) of the railroad crossings at Webb Street and King
21 Road. Given that trains frequently exceed 1,000 feet in length, it is possible that a
22 slow moving or stopped train could simultaneously block the Webb Street and King
23 Road at-grade crossings. The primary connections between southeast Loomis and
24 the Downtown area (i.e., across I-80) are Horseshoe Bar Road and Brace Road.
25 These two roads have narrow travel lanes and little or no paved shoulders, which
26 limits travel speeds for emergency vehicles.

27 ***Truck Routes***

28 With the exception of Sierra College Boulevard and I-80, none of the roadways
29 within Loomis are posted as truck routes. By observation, Sierra College Boulevard,
30 Taylor Road, and Horseshoe Bar Road (north of I-80) carry the greatest volume of
31 truck traffic in Loomis. King Road has “Not a Truck Route” signs, while Brace Road

1 has signs indicating truck weight restrictions. Figure 2-4 illustrates the signed Truck
2 Routes within Loomis.

3 ***Bus Service***

4 Public bus service is provided to the Loomis area by Placer County Transit. The
5 Taylor Road Shuttle (Route 50) interconnects Auburn, Newcastle, Penryn, Loomis,
6 and Sierra College Boulevard in Rocklin. This route has stops within Loomis at
7 Shawn Way, Walnut Street, Horseshoe Bar Road, King Road, and Del Oro High
8 School. Service is provided on Monday through Saturday between 8:35 AM and 6:25
9 PM. The Taylor Road Shuttle only provides service to one Loomis stop on Saturdays,
10 the King Road stop. Loomis is also served by the Placer Commuter Express (PCE), a
11 weekday commuter bus service that transports riders from stops along the I-80
12 corridor to Downtown Sacramento. The PCE stops at the Loomis Bus Station near
13 the Horseshoe Bar Road/Taylor Road intersection. This service operates between
14 5:20 AM and 7:50 AM in the mornings and between 4:17 PM and 7:17 PM in the
15 evenings. Three PCE buses stop in Loomis during each service period. Dial-A-Ride
16 (DAR) paratransit is also available in Loomis near I-80 and Taylor Road. Figure 2-5
17 illustrates the Placer County Transit routes within Loomis.

18 ***Bicycle/Pedestrian System***

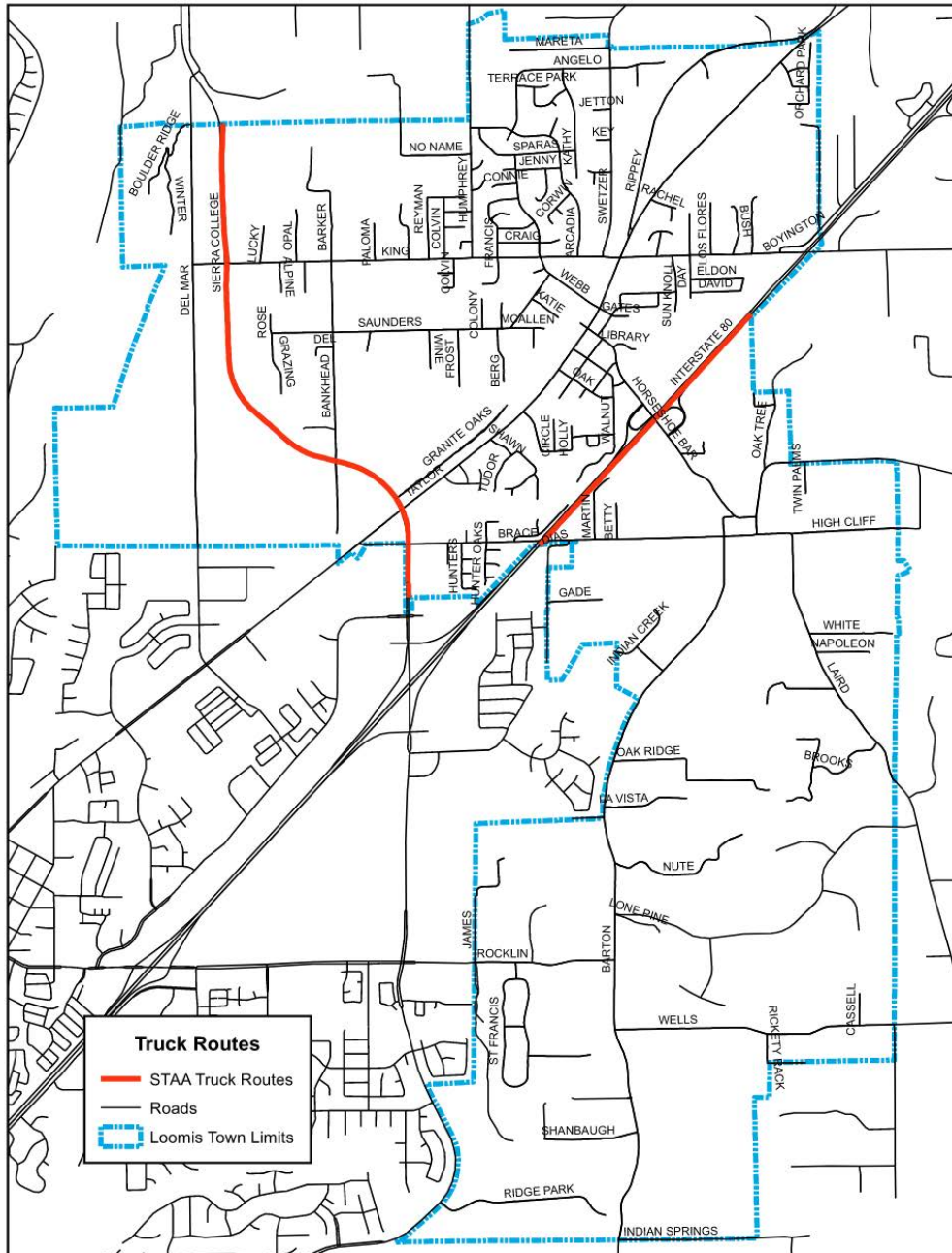
19 The Town of Loomis has assessed the 2010 Bicycle Transportation Plan and the 2010
20 Trails Master Plan in coordination with the goals and policies expressed in this
21 document, as an effort to provide the long-term framework to improve and
22 encourage the enhancement of the local and regional bikeway and pedestrian
23 network.

24 The existing bicycle system consists of a series of Class I (Multi-Use Paths) and Class
25 II (Bike Lanes). The bikeway classifications are described below:

26 **Class I.** Typically known as multi-use bike paths, Class I facilities are multi-use
27 facilities that provide a completely separated right-of-way for the exclusive
28 use of bicycles and pedestrians with cross flows of motorized traffic
29 minimized.

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1 **Figure 2-4: Existing Truck Routes**

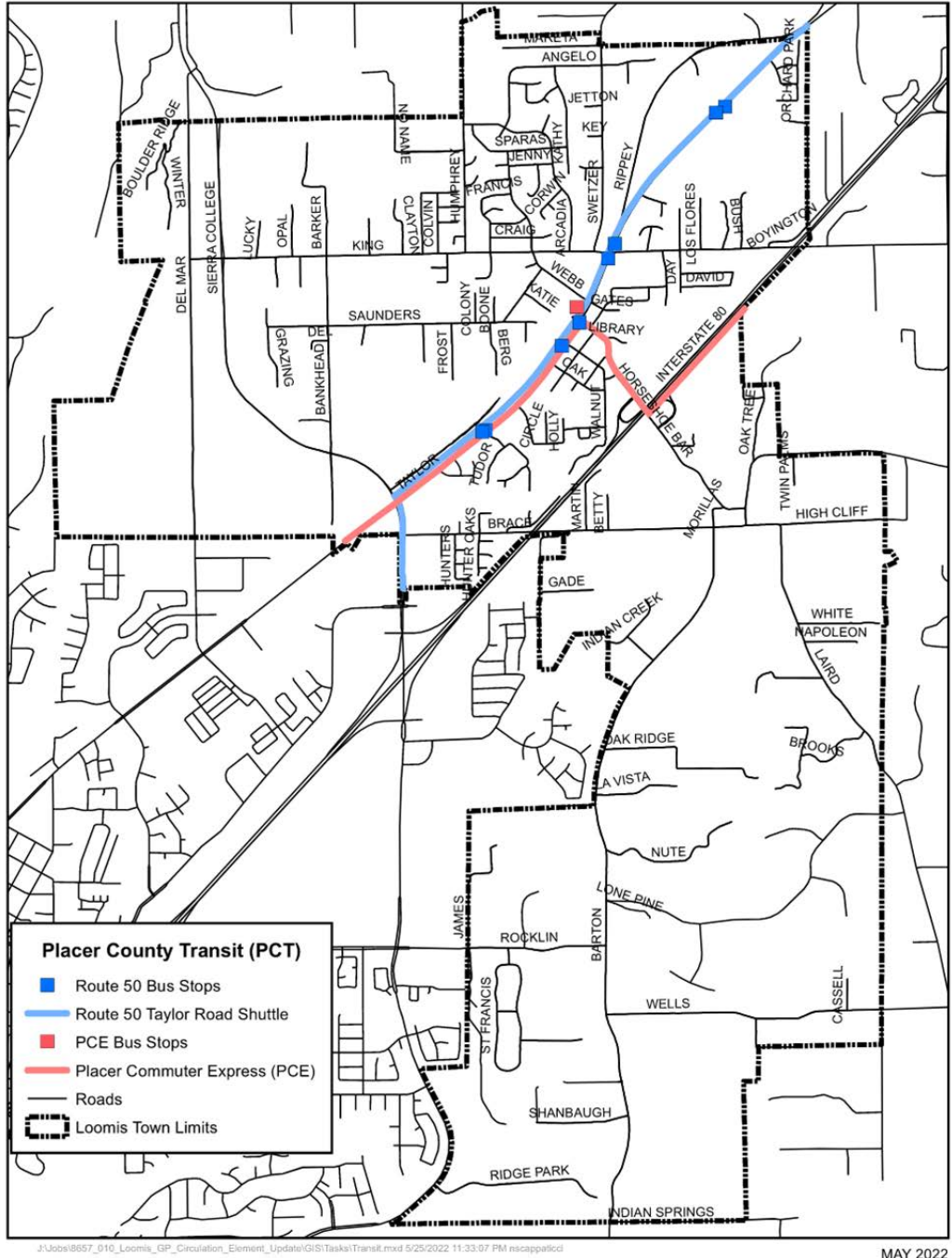


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1 **Figure 2-5: Existing Transit Routes**



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1 **Class II.** Known as bike lanes, Class II facilities provide a striped and signed
2 lane for one-way bicycle travel on each side of a street or highway. The
3 minimum width for bike lanes ranges between four and five feet depending
4 upon the edge of roadway conditions (curbs). Bike lanes are demarcated by a
5 six-inch white stripe, signage, and pavement legends.

6 **Class III.** Known as bike routes, Class III facilities provide signs for shared use
7 with motor vehicles within the same travel lane on a street or highway. Bike
8 routes may be enhanced with warning or guide signs and shared lane
9 marking pavement stencils. While Class III routes do not provide measures of
10 separation, they have an important function in providing continuity to the
11 bikeway network.

12 A Class I bike trail exists on the southeast side of Taylor Road between King Road
13 and Del Oro High School. Also, a Class I bike trail exists on the northwest side of
14 Taylor Road between Circle Drive and Sierra College Boulevard, but lacks proper
15 connectivity to Downtown Loomis. A short portion of King Road east of Bankhead
16 Road also features a Class I bike trail. Class II bike lanes are provided at the following
17 locations:

- 18 > Sierra College Boulevard between Granite Drive and Northern Town
19 LimitsDel Mar Avenue,
- 20 > Taylor Road between Southern Town Limits ~~Sierra College Boulevard~~ and
21 Northern Town Limits (with some gaps)~~Oak Street,~~
- 22 > ~~Taylor Road between Oak Street and Webb Street on the south side only, and~~
- 23 > King Road between Sierra College Boulevard and I-80 (with some gaps), and
- 24 > Horseshoe Bar Road between I-80 Westbound Ramps and Library Drive.

25 The existing pedestrian facilities are irregularly located within Loomis. Sidewalks are
26 partially provided on Sierra College Boulevard, King Road, Taylor Road, Horseshoe
27 Bar Road, and Swetzer Road. Some of the sidewalks are old in design and do not
28 meet current ADA standards. Crosswalks are provided at four signalized
29 intersections and at a number of other unsignalized locations.

1 Figure 2-6 illustrates the existing bicycle facilities within Loomis. Town of Loomis
2 Bikeway Master Plan and Town of Loomis Trails Master Plan are included at the end
3 of this section as Figure 2-13 and Figure 2-14, respectively. ~~Town of Loomis Bikeway~~
4 ~~Master Plan and Figure 2-7 illustrates the Town of Loomis Trails Master Plan.~~

5 ***Rail Service***

6 Existing train traffic through Loomis is the Union Pacific Railroad (UPRR), which has
7 two tracks that run through Loomis; the one adjacent to Taylor Road is utilized by
8 westbound trains, and the second is located close to Sierra College Boulevard and is
9 utilized by eastbound trains. Currently, there are no passenger or freight rail
10 transportation service stops located within Loomis.

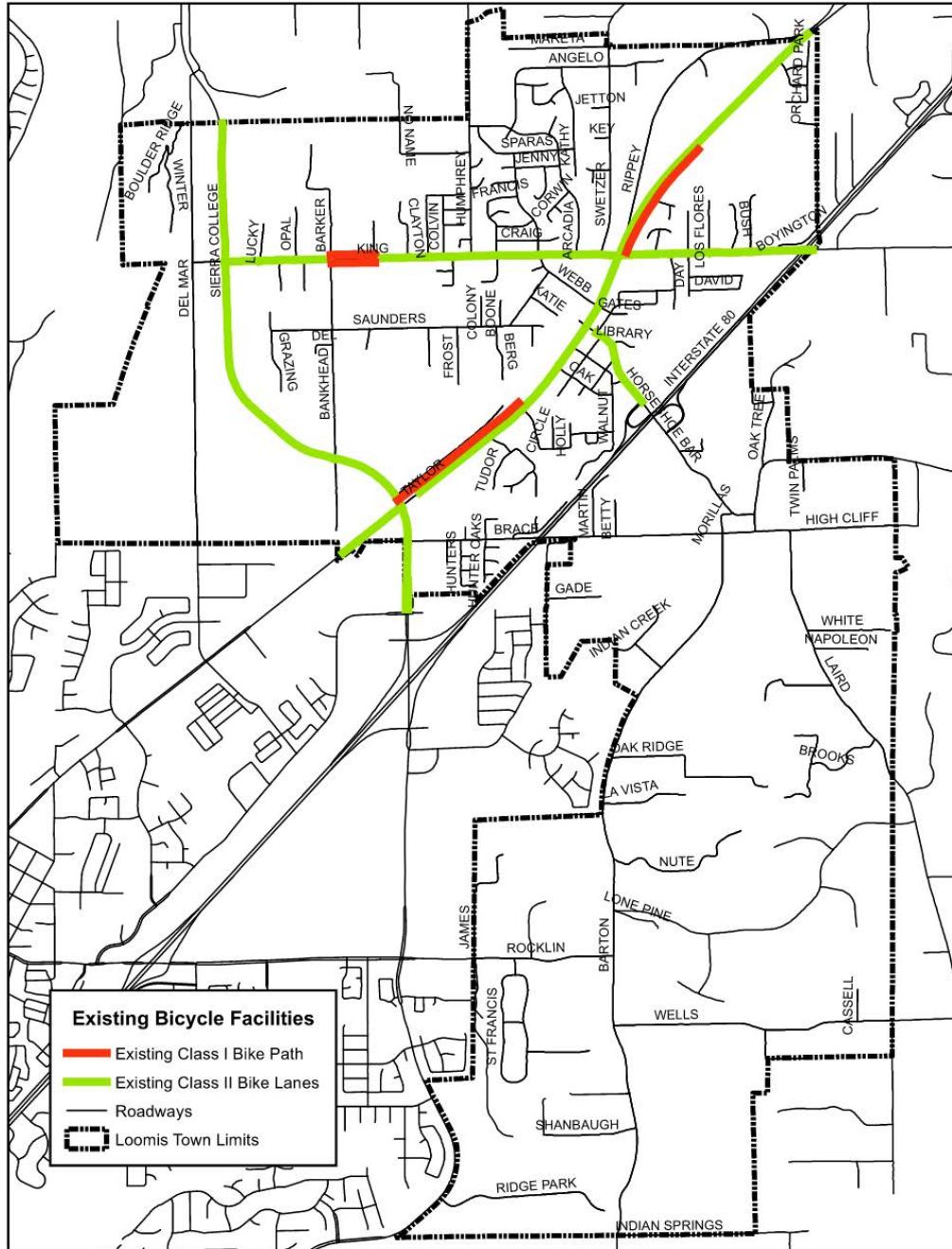
11 Switching improvements may be made in the Loomis area so that passenger rail
12 service will use the Taylor Road tracks for both directions of travel. The historic train
13 station at the terminus of Horseshoe Bar Road is a possible location for future
14 passenger service.

15 The existing Capitol Corridor train service is an intercity passenger train that
16 provides service between San Jose and Auburn. Capitol Corridor has two stops in
17 neighboring areas of Roseville, Rocklin, and Auburn. The existing Capitol Corridor
18 train service stops east of Sacramento in the areas of Roseville, Rocklin, and Auburn
19 with two trains per day. From Sacramento to San Jose, Capitol Corridor provides four
20 trains per day. Expansion is possible and may be expanded to include Loomis and
21 Newcastle. ~~Figure 2-8~~ Figure 2-7 illustrates the railroads within Loomis.

22

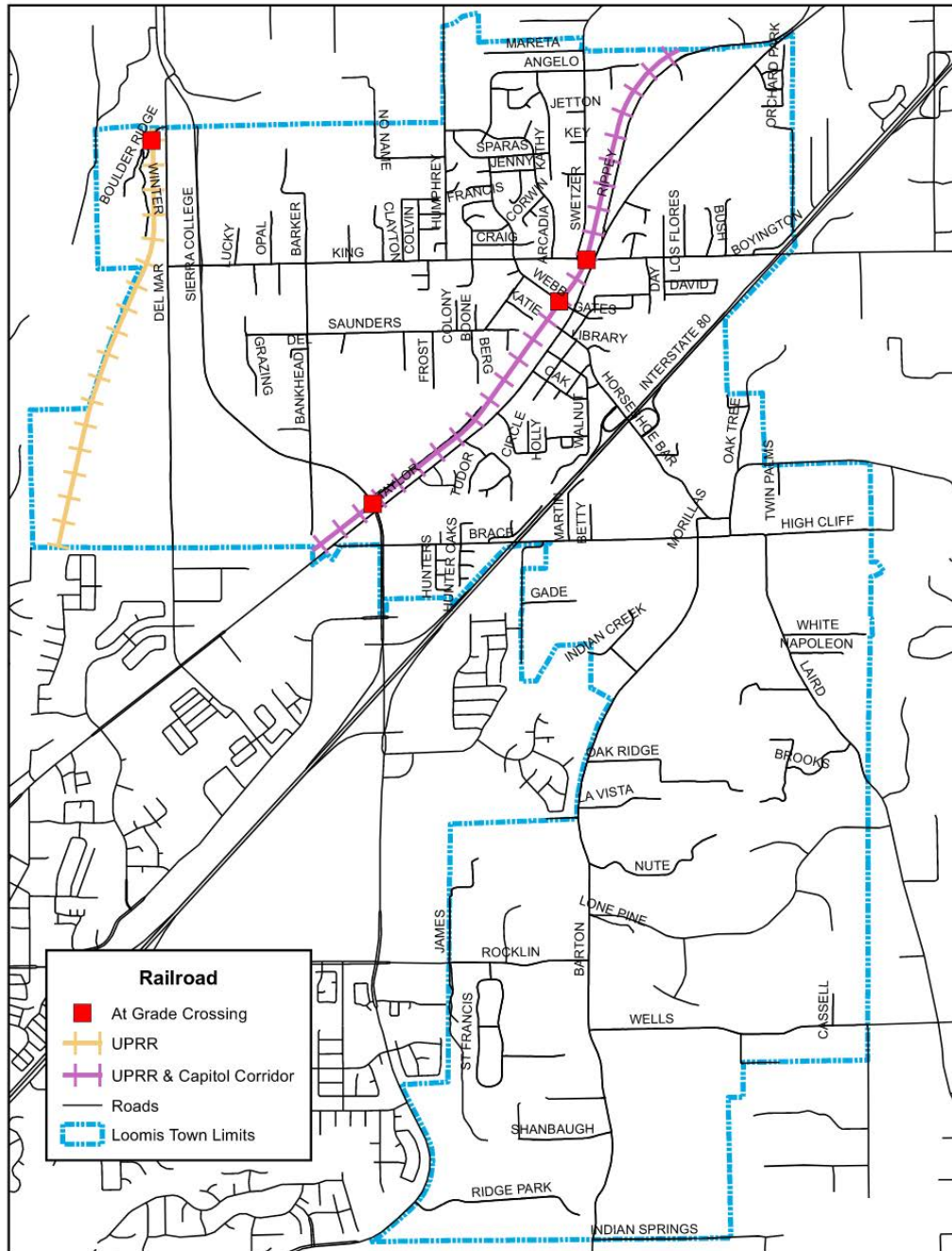
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1 **Figure 2-6: Bikeway Master Plan Existing Bicycle Facilities**



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1 **Figure 2-7: Trails Master Plan Existing Railroads**



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1 ***Existing Deficiencies***

2 Existing deficiencies of the roadway, intersection, and bicycle/pedestrian systems
 3 are identified and displayed in Table 2-6. A review of the transit and rail systems did
 4 not reveal any existing deficiencies.

5

Table 2-6: Existing Deficiencies	
Roadway Facilities	Description of Deficiency
Horseshoe Bar Road between Taylor Road and I-80 Bridge	Existing traffic volumes are near the capacity of the road.
Horseshoe Bar Road south of I-80	Sharp curves and narrow travel lanes and shoulders results in difficult driving conditions.
<u>Rocklin Road between James Drive and Barton Road</u>	<u>Existing traffic volumes are near the capacity of the road.</u>
Taylor Road between Horseshoe Bar Road and King Road	Existing traffic volumes are near the capacity of the road.
Bankhead Road and Barton Road	Narrow travel lanes and shoulders results in difficult driving conditions.
Bankhead Road, Brace Road, Webb Street, and Sierra College Boulevard north of King Road, <u>and King Road west of Sierra College Boulevard</u>	Poor pavement conditions, excessive travel speeds, and narrow travel lanes result in difficult driving conditions
Intersections	Description of Deficiency
Horseshoe Bar Road/I-80 EB Ramps	Significant delays <u>and queuing</u> occur on the westbound approach in the <u>AM and</u> PM peak hour. The high volumes on the off-ramp satisfy the peak-hour signal warrants.
Taylor Road/Webb Street	Significant delays occur on the north <u>west</u> bound approach in the PM peak hour.
Taylor Road/Horseshoe Bar Road	Although LOS is C, there are significant delays on most approaches due to heavy traffic volumes and inefficient signal timings.

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Table 2-6: Existing Deficiencies	
Roadway Facilities	Description of Deficiency
Taylor Road/King Road	Significant delay occurs on all approaches in the PM peak hour due to inefficient signal timing. Although LOS is C, Significant delays occur on some approaches in the AM peak when school is in session. Insufficient turn lane storage westbound for multiple approaches.
Bicycle/Pedestrian System	Description of Deficiency
Taylor Road through the Downtown area	The striping for the Class II bicycle lane is weathered and difficult to see. The Class II bicycle lane on the north side of Taylor Road terminates at Oak Street creating a gap to King Road.
Taylor Road through the Downtown area	The Class I bike/pedestrian pathway from Sierra College Boulevard to Circle Drive lacks proper connectivity to Downtown Loomis and the multi-modal center.
Downtown area connectivity	There are multiple small gaps in the Class II bike lanes within and near the Downtown areas.

Source: Wood Rodgers 2021

1 **Future Conditions (To be completed alongside the EIR)**

2 This section provides an assessment of future transportation conditions assuming
 3 build-out of the General Plan land uses and Year 2040 development in the
 4 surrounding region. This “future baseline” condition establishes the need for the
 5 planned improvements identified in the subsequent sections.

6 ***Previously Planned Transportation Improvements***

7 **2001 Town of Loomis General Plan Circulation Element**

8 The 2001 Loomis General Plan included the following improvements:

- 9 > Widen Sierra College Boulevard to six lanes immediately north of I-80, and to
 10 four lanes north of Taylor Road;

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- 1 > ~~Reconstruct the I-80/Sierra College Boulevard interchange (completed);~~
- 2 > ~~Widen I-80 from a six-lane to an eight-lane freeway east and west of Horseshoe~~
- 3 ~~Bar Road;~~
- 4 > ~~Install bicycle lanes on Taylor Road from Midas Avenue (in Rocklin) to Sierra~~
- 5 ~~College Boulevard and from King Road to Loomis Town limits (partially~~
- 6 ~~complete); and~~
- 7 > ~~Attempt to provide passenger rail service in Loomis.~~

8 **2016 Town of Loomis General Plan Circulation Element Update**

9 The 2016 Loomis Circulation Element Update included the following Core Area
10 Improvements:

- 11 > ~~Construct the Boyington Road Extension (two-lane frontage road) from King~~
- 12 ~~Road to Horseshoe Bar Road, with a short extension to connect with Doc~~
- 13 ~~Barnes Road;~~
- 14 > ~~Construct the Swetzer Road Extension (two-lane roadway) from King Road to~~
- 15 ~~Sierra College Boulevard immediately north of the UPRR tracks;~~
- 16 > ~~Construct the Webb Street Extension (two-lane roadway) from Laird Street to~~
- 17 ~~the Library Drive/Horseshoe Bar Road intersection;~~
- 18 > ~~Convert the future Horseshoe Bar Road/Library Drive/Webb Street Extension~~
- 19 ~~intersection to a roundabout;~~
- 20 > ~~Widen Webb Street between Swetzer Road Extension and Laird Street to~~
- 21 ~~three lanes with curb, gutter, and sidewalk, and parking between Taylor Road~~
- 22 ~~and Laird Street;~~
- 23 > ~~Widen Horseshoe Bar Road between Taylor Road and I-80 Ramps to three~~
- 24 ~~lanes, provide parking between Taylor Road and Webb Street Extension, and~~
- 25 ~~construct roundabouts at the intersections with Boyington Road Extension~~
- 26 ~~and I-80 Ramps;~~
- 27 > ~~Widen Taylor Road between King Road and Oak Street to three lanes with~~
- 28 ~~curb, gutter, sidewalk, and parking;~~

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- 1 > ~~Construct visual gateways on Taylor Road and Horseshoe Bar Road; and~~
- 2 > ~~Construct new traffic signals at the Taylor Road intersections with Webb~~
- 3 ~~Street and Walnut Avenue, and Circle Drive.~~

4 ~~The 2016 Loomis Circulation Element Update included the following Other~~
5 ~~Improvements:~~

- 6 > ~~Widen Sierra College Boulevard to four lanes between Granite Drive and the~~
- 7 ~~northern Town limits, and to six lanes south of Granite Drive;~~
- 8 > ~~Construct a four-lane overcrossing on Sierra College Boulevard over UPRR~~
- 9 ~~and Taylor Road;~~
- 10 > ~~Realign Brace Road from Sierra College Boulevard to Taylor road to the east~~
- 11 ~~side of Taylor's Corner and widen to four lanes;~~
- 12 > ~~Widen Brace Road between Sierra College Boulevard and I-80 to have~~
- 13 ~~standard curb, gutter, bike lanes, shoulders, and sidewalks;~~
- 14 > ~~Convert two existing intersections at Brace Road and Horseshoe Bar Road~~
- 15 ~~into a single roundabout;~~
- 16 > ~~Widen Horseshoe Bar Road south of I-80 to have standard lane widths and~~
- 17 ~~shoulders and a pedestrian pathway;~~
- 18 > ~~Widen Taylor Road outside the Core Area to three lanes with curb, gutter,~~
- 19 ~~bike lanes, a sidewalk on one side, and a pedestrian path;~~
- 20 > ~~Widen Rocklin Road between James Drive and Barton Road to three lanes~~
- 21 ~~with curb, gutter, bike lanes, and sidewalk, and construct a roundabout at the~~
- 22 ~~Rocklin Road/Barton Road intersection;~~
- 23 > ~~Improve King Road with turning lanes and Complete Streets where possible;~~
- 24 > ~~Provide standard lane widths and shoulders at Brace Road, Barton Road,~~
- 25 ~~Bankhead Road, Laird Road, and Wells Avenue when adjacent new~~
- 26 ~~development occurs.~~

27 ~~The 2016 Loomis Circulation Element Update included the following~~
28 ~~Bicycle/Pedestrian Improvements:~~

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- 1 > Provide westbound bike lane on Taylor Road from King Road to Oak Street;
- 2 > Provide bike lanes on Taylor Road (from King Road to eastern Town limits and
- 3 Sierra College Boulevard to western Town limits), Sierra College Boulevard
- 4 (within entire Town limits), Rocklin Road (within entire Town limits),
- 5 Horseshoe Bar Road (from the Tourist/Destination Commercial designation
- 6 south of I-80 to the Boyington Road Extension);
- 7 > Provide connectivity to the Class I Bike Path on Taylor Road south of
- 8 downtown;
- 9 > Construct a pedestrian only facility between Walnut Street and Horseshoe
- 10 Bar Road;
- 11 > Provide Class III bicycle facilities on Bankhead Road (King Road to Sierra
- 12 College Boulevard), Saunders Avenue (Bankhead Road to eastern Town
- 13 limits), South Walnut Street/Stone Road, Brace Road, and Laird Road; and
- 14 > Construct a Class I bicycle/pedestrian facility along Secret Ravine Creek and
- 15 Antelope Creek within Loomis.

16 ***Placer County Transportation Planning Agency (PCTPA) 2040 Regional Transportation*** 17 ***Plan (RTP)***

18 The PCTPA is the regional transportation planning agency for the western slope of
19 the Sierra Nevada mountains in Placer County, and part of the larger Sacramento
20 metropolitan planning jurisdiction, Sacramento Area Council of Governments
21 (SACOG). The 2040 Regional Transportation Plan (RTP), adopted in 2019, is an
22 update of the Placer County 2036 RTP, and serves as the transportation blueprint for
23 the Placer County portion of the SACOG 2020 Metropolitan Transportation Plan
24 (MTP)/Sustainable Communities Strategy (SCS). The 2040 RTP is developed to
25 address existing and future multi-modal transportation needs within Placer County,
26 which includes the Town of Loomis. The following transportation-related
27 improvements are listed in the PCTPA 2040 RTP as planned projects for the Town of
28 Loomis:

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1 ~~Planned Projects:~~

2 ~~> Construct Class I bicycle/pedestrian facility along Antelope Creek (also listed~~
3 ~~in 2016 Loomis Circulation Element Update);~~

4 ~~> Replace Brace Road Bridge at Secret Ravine Creek;~~

5 ~~> Construct a two-lane road extension of Doc Barnes Drive from Horseshoe~~
6 ~~Bar Road to King Road;~~

7 ~~> Improve I-80/Brace Road Overcrossing to Caltrans standards;~~

8 ~~> Modify King Road and Horseshoe Bar interchanges with I-80 to~~
9 ~~accommodate freeway access for traffic from King Road onto westbound I-~~
10 ~~80, including a transition auxiliary lane on I-80;~~

11 ~~> Construct Class I bicycle/pedestrian facility along Secret Ravine creek system~~
12 ~~from northern Town limits to southern Town limits (also listed in 2016 Loomis~~
13 ~~Circulation Element Update);~~

14 ~~> Widen Sierra College Boulevard between the UPRR tracks and the northern~~
15 ~~Town limits from two lanes to four lanes (also listed in 2016 Loomis~~
16 ~~Circulation Element Update); and~~

17 ~~> Widen Sierra College Boulevard between Granite Drive and Taylor Road from~~
18 ~~four lanes to six lanes.~~

19 ~~Maintenance and rehabilitation projects listed in the PCTPA 2040 RTP, such as~~
20 ~~culvert repairs and roadway overlays, were not included in the list of planned~~
21 ~~projects. The PCTPA 2040 RTP does not include any programmed projects for the~~
22 ~~Town of Loomis.~~

23 ***Future Travel Forecasts***

24 Table 2-7 shows the average daily travel demands for Year 2035 conditions. Sierra
25 College Boulevard is projected to carry between 26,900 vehicles per day south of
26 King Road to 45,400 vehicles per day near the southern Town limits. This is an
27 approximate three-fold increase over existing traffic that is primarily attributable to
28 new developments, such as Twelve Bridges, Whitney Oaks, and Clover Valley Lakes

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1 planned in the surrounding communities. Traffic volumes on Taylor Road will range
2 from about 10,100 vehicles per day near the northern Town limits to about 22,500
3 vehicles per day through the Downtown area. Traffic volumes on King Road, Swetzer
4 Road, Webb Street, Barton Road, Laird Road, and Brace Road are expected to range
5 from 2,500 to 11,400 vehicles per day.

6 Table 2-7 also summarizes the daily volume-to-capacity ratio for the major roadways
7 assuming no physical improvements. This table shows that projected volumes will
8 exceed the capacity on the segments of Taylor Road, Sierra College Boulevard,
9 Horseshoe Bar Road, Webb Street, Laird Road, Rocklin Road, Bankhead Road,
10 Barton Road, and Brace Road if these roads are not improved.

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Table 2-7: Roadway Segment Operations – Existing and Future Baseline Conditions

Street	Roadway Segment	Roadway Classification	# of Lanes	Existing Conditions			Future Baseline Conditions		
				Average Daily Traffic	Daily v/c Ratio*	Level of Service	Average Daily Traffic	Daily v/c Ratio*	Level of Service
Bankhead Rd	King Rd to Saunders Ave	R	2	409 407	0.09 0.09	A	2,800	0.62	D
	Saunders Ave to Sierra College Blvd	R	2	673 670	0.15 0.15	B	3,800	0.84	E
Barton Rd	Brace Rd to Gold Trail Way	AL 2	2	1,935 1,925	0.13 0.13	A	4,000	0.27	A
	Gold Tail Way to Rocklin Rd	AL 2	2	2,500 2,304	0.17 0.15	A	4,200	0.28	A
	Rocklin Rd to Indian Springs Rd	AL 2	2	7,952 7,413	0.53 0.49	A	12,100	0.81	D
Brace Rd	Sierra College Blvd to I-80 Bridge	AL 2	2	4,521 3,539	0.30 0.24	A	18,000	OC	F
	I-80 Bridge to Laird Rd	AL 2	2	3,555 2,846	0.24 0.19	A	9,600	0.64	B
Del Mar Ave	King Rd to N. Town Limit	R	2	212 211	0.05 0.05	A	300	0.07	A
	S. Town Limit to King Rd	R	2	719 627	0.16 0.14	B	1,200	0.27	B
Horseshoe Bar Rd	Taylor Rd to I-80 Bridge	AL 2	2	16,536 14,142	1.10 0.94	E	17,300	OC	F
	I-80 Bridge to Horseshoe Bar Rd	AL 2	2	9,578 7,961	0.64 0.53	A	8,700	0.58	A

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Table 2-7: Roadway Segment Operations – Existing and Future Baseline Conditions									
Street	Roadway Segment	Roadway Classification	# of Lanes	Existing Conditions			Future Baseline Conditions		
				Average Daily Traffic	Daily v/c Ratio*	Level of Service	Average Daily Traffic	Daily v/c Ratio*	Level of Service
	Brace Rd to N. Town Limit	AL 2	2	6,427	0.43	A	5,300	0.35	A
Humphrey Rd	Arcadia Ave to N. Town Limit	AL 2	2	1,232	0.08	A	4,800	0.32	A
	King Rd to Arcadia Ave	AL 2	2	2,721	0.18	A	4,600	0.31	A
King Rd	Del Mar Ave to Bankhead Rd	AL 2	2	2,988	0.20	A	5,200	0.35	A
	Bankhead Rd to Humphrey Rd	AL 2	2	3,188	0.21	A	6,900	0.46	A
	Humphrey Rd to Taylor Rd	AL 2	2	5,521	0.37	A	6,700	0.45	A
	Taylor Rd to Bush Ln	AL 2	2	5,629	0.38	A	7,600	0.51	A
	Bush Ln to I-80 Bridge	AL 2	2	5,684	0.38	A	5,800	0.39	A
Laird Rd	Brace Rd to White Ln	RC	2	4,673	0.52	B	6,500	0.72	C
	White Ln to S. Town Limit	RC	2	4,412	0.49	B	6,200	0.69	C
Rippey Rd	Taylor Rd to N. Town Limit	AL 2	2	802	0.05	A	943	0.06	A
Rocklin Rd	James Dr to Barton Rd	AL 2	2	13,479	0.90	C	17,800	OC	F

CIRCULATION & TRANSPORTATION

Table 2-7: Roadway Segment Operations – Existing and Future Baseline Conditions

Street	Roadway Segment	Roadway Classification	# of Lanes	Existing Conditions			Future Baseline Conditions		
				Average Daily Traffic	Daily v/c Ratio*	Level of Service	Average Daily Traffic	Daily v/c Ratio*	Level of Service
Saunders Ave	Bankhead Rd to McAllen Ln	R	2	378 329	0.08 0.07	A	600	0.13	A
	McAllen Ln to Webb St	R	2	919 787	0.20 0.17	B	400	0.09	A
Sierra College Blvd	N. Town Limit to King Rd	AM 2	2	12,179 11,361	0.68 0.63	B	32,800	OC	F
	King Rd to Bankhead Rd	AM 2	2	11,372 10,608	0.63 0.59	A	26,900	OC	F
	Bankhead Rd to Brace Rd	AM 2	2	12,955 12,085	0.72 0.67	B	34,700	OC	F
	Brace Rd to N. Granite Dr	AL 4	4	22,010 20,005	0.73 0.67	B	45,400	OC	F
Swetzer Rd	King Rd to N. Town Limit	AL 2	2	6,261 6,230	0.42 0.42	A	5,800	0.39	A
Taylor Rd	S. Town Limit to Sierra College Blvd	AM 2	2	11,463 10,966	0.64 0.61	B	18,900	OC	F
	Sierra College Blvd to Circle Dr	AM 2	2	11,045 10,435	0.61 0.58	A	20,500	OC	F
	Circle Dr to Horseshoe Bar Rd	AL 2	2	10,775 9,935	0.72 0.66	B	17,000	OC	F

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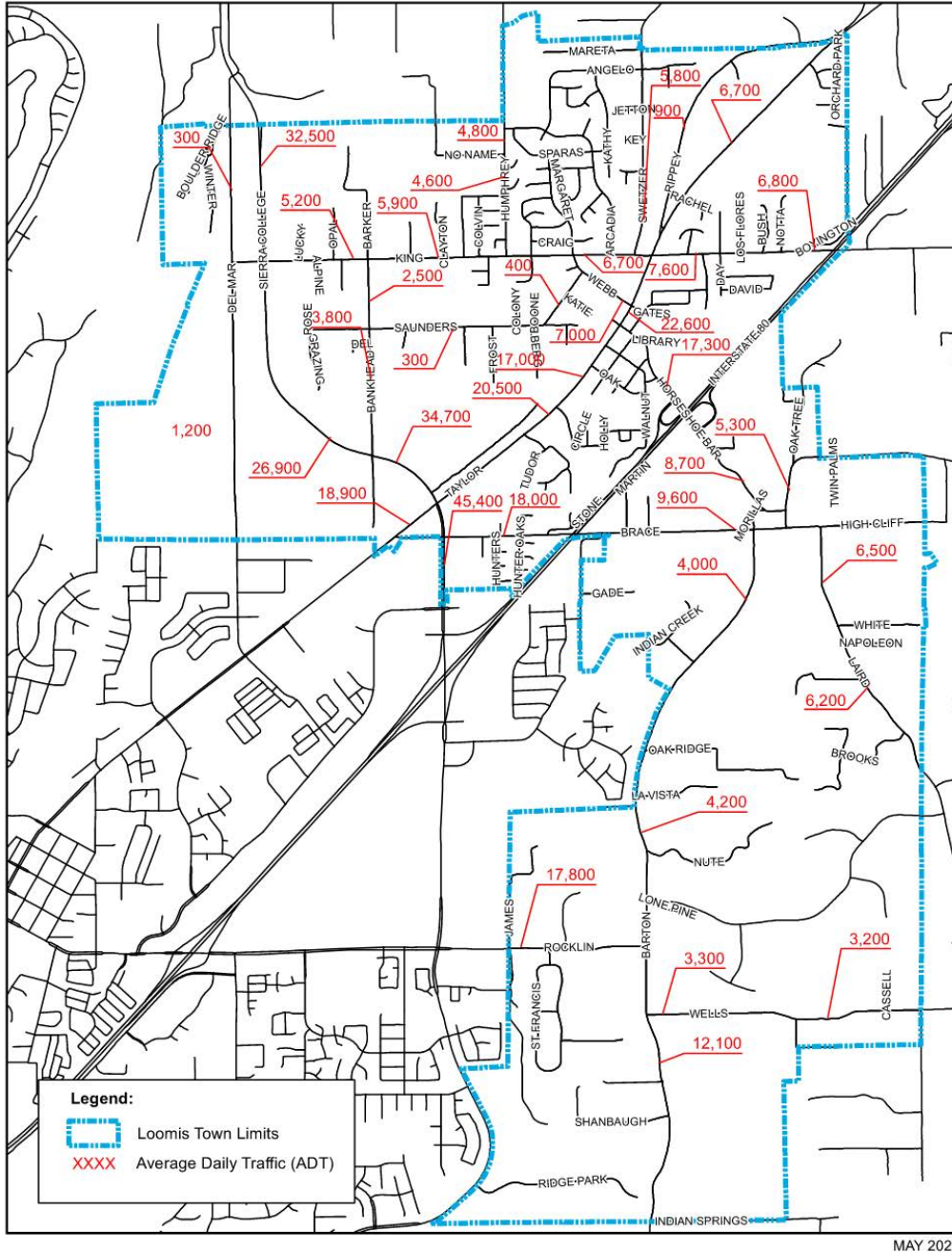
Table 2-7: Roadway Segment Operations – Existing and Future Baseline Conditions									
Street	Roadway Segment	Roadway Classification	# of Lanes	Existing Conditions			Future Baseline Conditions		
				Average Daily Traffic	Daily v/c Ratio*	Level of Service	Average Daily Traffic	Daily v/c Ratio*	Level of Service
	Horseshoe Bar Rd to King Rd	AL 2	2	18,753 16,354	1.25 OC	F	22,600	OC	F
	King Rd to N. Town Limit	AM 2	2	8,881 7,380	0.49 0.41	A	6,700	0.37	A
Webb St	King Rd to Taylor Rd	AL 2	2	4,121 3,861	0.27 0.26	A	7,000	0.47	A
Wells Ave	Barton Rd to Rickety Rack Rd	RC	2	3,497 2,647	0.39 0.29	A	3,300	0.37	B
	Rickety Rack Rd to Morgan Place	RC	2	3,372 2,454	0.37 0.27	A	3,200	0.36	B

Source: Wood Rodgers 2021

*Volume to capacity ratio is the volume of current traffic in relation to the maximum amount of traffic the roadway can safely accommodate. "OC" means Over Capacity.

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1 **Figure 2-8: Future (2035) Average Daily Traffic (Placeholder)**



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1 **Future Deficiencies (Placeholder)**

2 Future deficiencies of the roadway, bicycle/pedestrian systems are identified and
 3 displayed in Table 2-8 assuming no improvements are made. A review of the transit
 4 and rail systems did not reveal any future deficiencies. Figure 2-9 presents the future
 5 deficiencies.

Table 2-8: Primary Future Deficiencies (Without Any Improvements) (Placeholder)	
Roadway Facilities	Description of Deficiency
Horseshoe Bar Road, Taylor Road, Sierra College Boulevard, Rocklin Road, Brace Road, and Webb Street	Projected traffic volumes will exceed the capacity of these roadways in some or all sections.
Horseshoe Bar Road between Taylor Road and I-80 Bridge	Lack of turning lanes and sidewalks will become more problematic with increases in traffic volumes.
Bankhead Road, Brace Road, and Barton Road	Narrow travel lanes and little or no paved shoulders will result in difficult driving conditions with increased traffic volumes.
Taylor Road between southern Town limits and King Road	Lack of turning lanes and sidewalks will become more problematic with increases in traffic volumes.
Horseshoe Bar Road south of I-80	Sharp curves and narrow travel lanes and shoulders results in difficult driving conditions.
Bankhead Road, Barton Road, Laird Road, and Wells Ave	Narrow travel lanes and shoulders results in difficult driving conditions.
Intersections	Description of Deficiency
Sierra College Boulevard/Taylor Road	Significant delays on most approaches due to heavy traffic volumes.
Sierra College Boulevard/Brace Road	Significant delays on all approaches.
Taylor Road/King Road	Significant delays occur in the AM peak when school is in session. Insufficient turn lane storage westbound.
Taylor Road/Webb Street	Significant delays occur on the northbound approach in the PM peak hour.

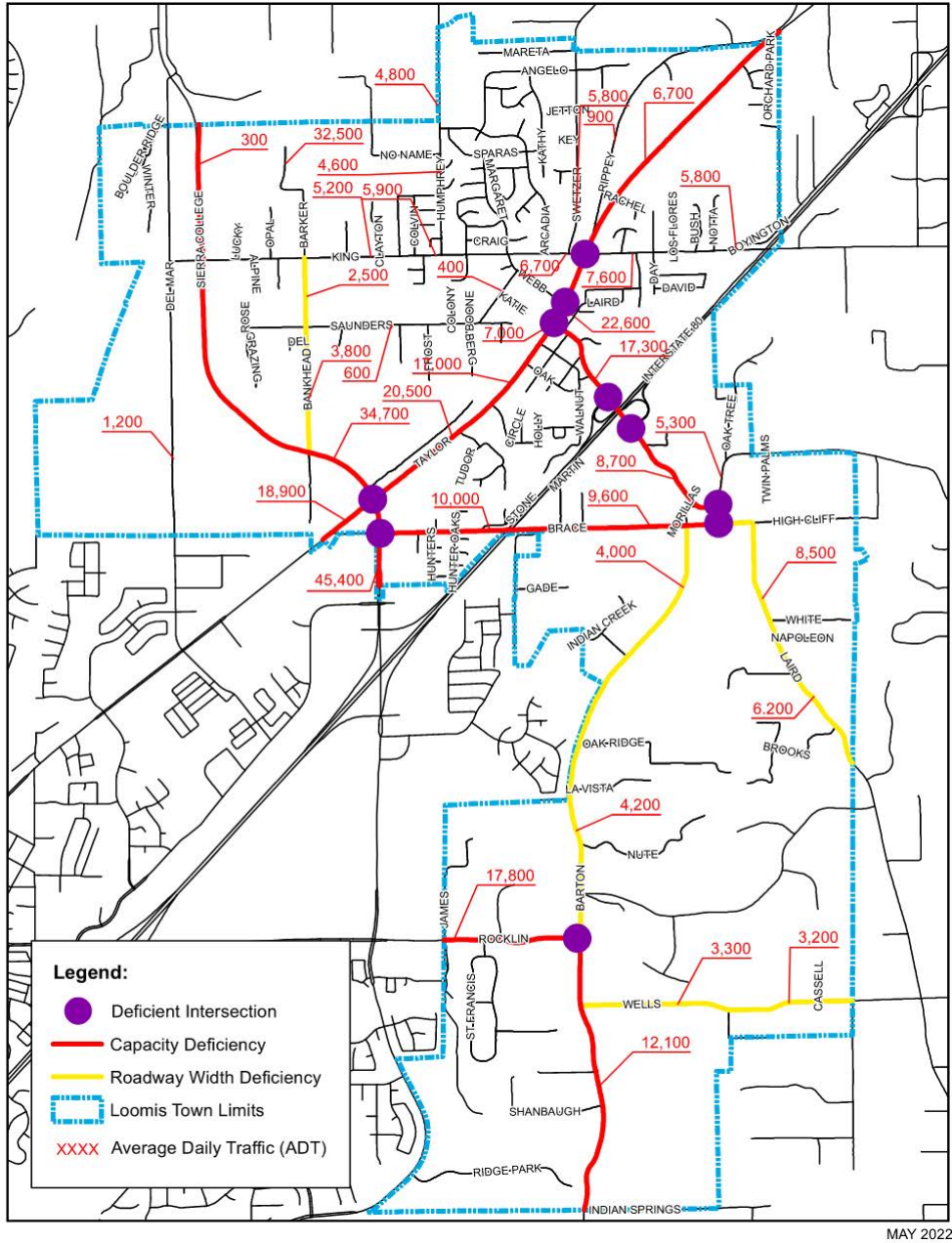
CIRCULATION & TRANSPORTATION

Table 2-8: Primary Future Deficiencies (Without Any Improvements) (Placeholder)	
Roadway Facilities	Description of Deficiency
Taylor Road/Horseshoe Bar Road	Significant delays on most approaches due to heavy traffic volumes and inefficient signal timings. Heavy westbound right turning traffic.
Horseshoe Bar Road/I-80 Ramps	Significant delays on ramp approaches with stop sign control and heavy volume on Horseshoe Bar Road.
Horseshoe Bar Road/Laird Road and Brace Road	The two adjacent intersections are projected to operate inefficiently with excess queueing and significant delays.
Rocklin Road/Barton Road	Significant delays on Rocklin Road with excess queueing and a significant increase in volume.
Bicycle/Pedestrian System	Description of Deficiency
General Bicycle Facilities	Bicycle facilities are sparse throughout the town, and increased population and use of bicycles will create the need for additional facilities.
Taylor Road through the Downtown area	The striping for the Class II bicycle lane is weathered and difficult to see. The Class II bicycle lane on the north side of Taylor Road terminates at Oak Street creating a gap to King Road.
Taylor Road, Sierra College Boulevard, King Road, Brace Road	Sidewalks are discontinuous throughout these roadways.

Source: Wood Rodgers 2021

CIRCULATION & TRANSPORTATION

1 **Figure 2-9: Future Deficiencies (Placeholder)**



2
3

1 **Transportation System Improvements (To be Completed**
2 **Alongside the EIR)**

3 This section presents planned capital improvements to the transportation system
4 for the Town of Loomis. The transportation improvements are intended to support
5 build-out of the General Plan. The planned transportation system will need to be
6 phased as the needs occur and funding is available.

7 ***Roadway Network***

8 Improvements to the roadway network are intended to address several future
9 problems:

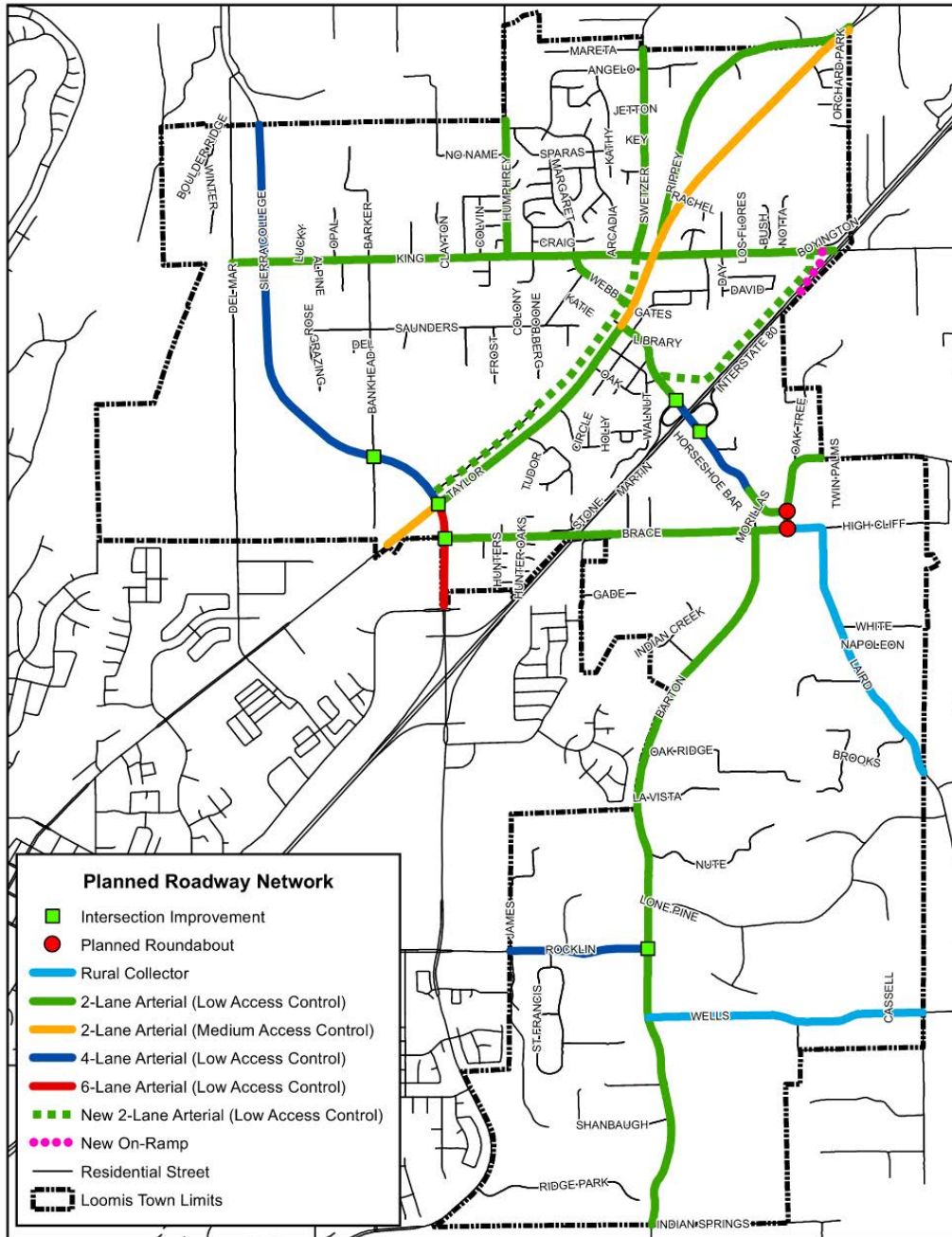
- 10 > Insufficient capacity at several locations to support build-out of the Town and
11 growth in the surrounding communities;
- 12 > Excess “through” traffic and trucks along Taylor Road through Downtown;
- 13 > A desire to create a more pedestrian-friendly environment in Downtown; and
- 14 > Safety issues related to vehicular traffic.

15 The primary elements of the planned transportation system are outlined in this
16 section. Figure 2-10 illustrates the planned roadway network. Figure 2-11 illustrates
17 the planned bicycle facilities. Figures 2-12 through 2-19 illustrate the Roadway Cross-
18 Sections for the Town.

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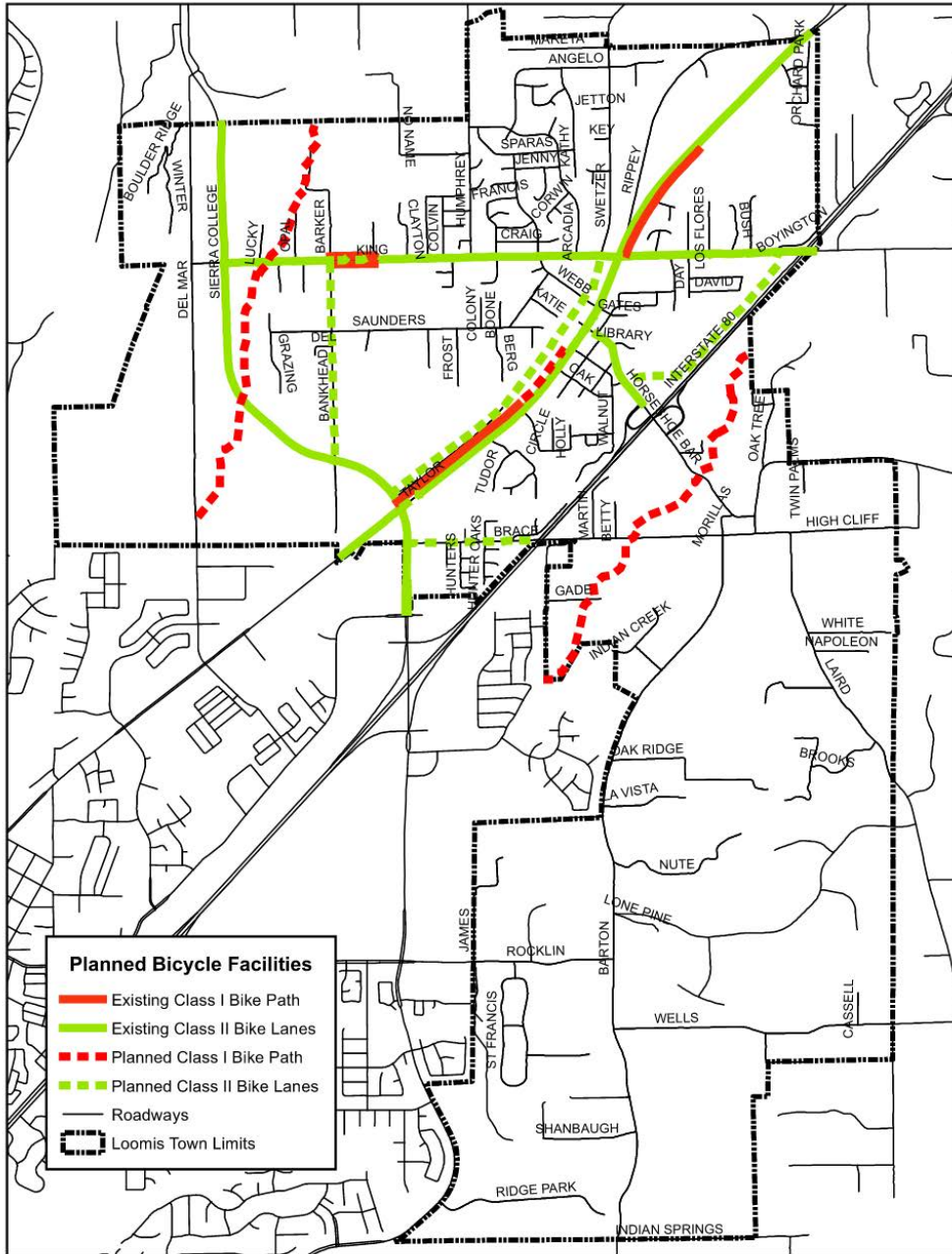
CIRCULATION & TRANSPORTATION

1 **Figure 2-9: Planned Roadway Network (To be completed with the EIR)**



2

1 **Figure 2-10: Planned Bicycle Facilities (To be completed with the EIR)**

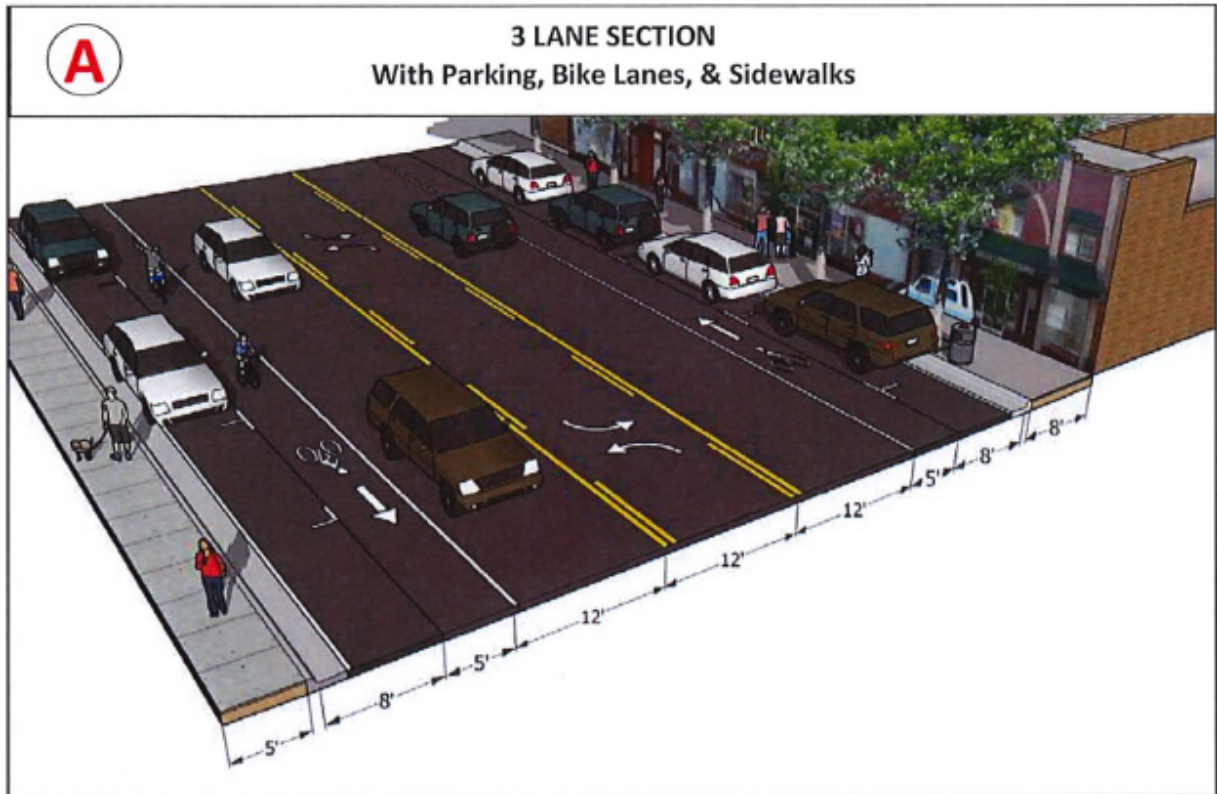


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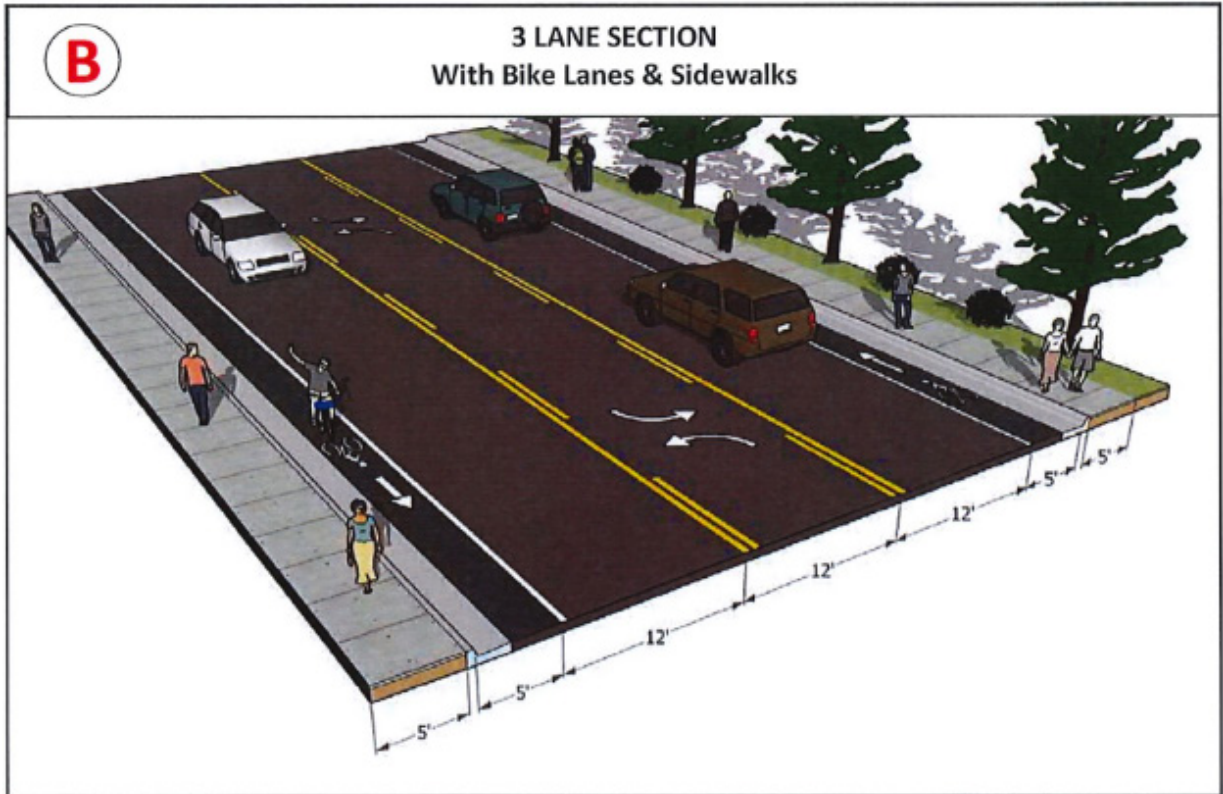
CIRCULATION & TRANSPORTATION

1 **Figure 2-12: Roadway Cross-Sections (To Be Updated)**



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3

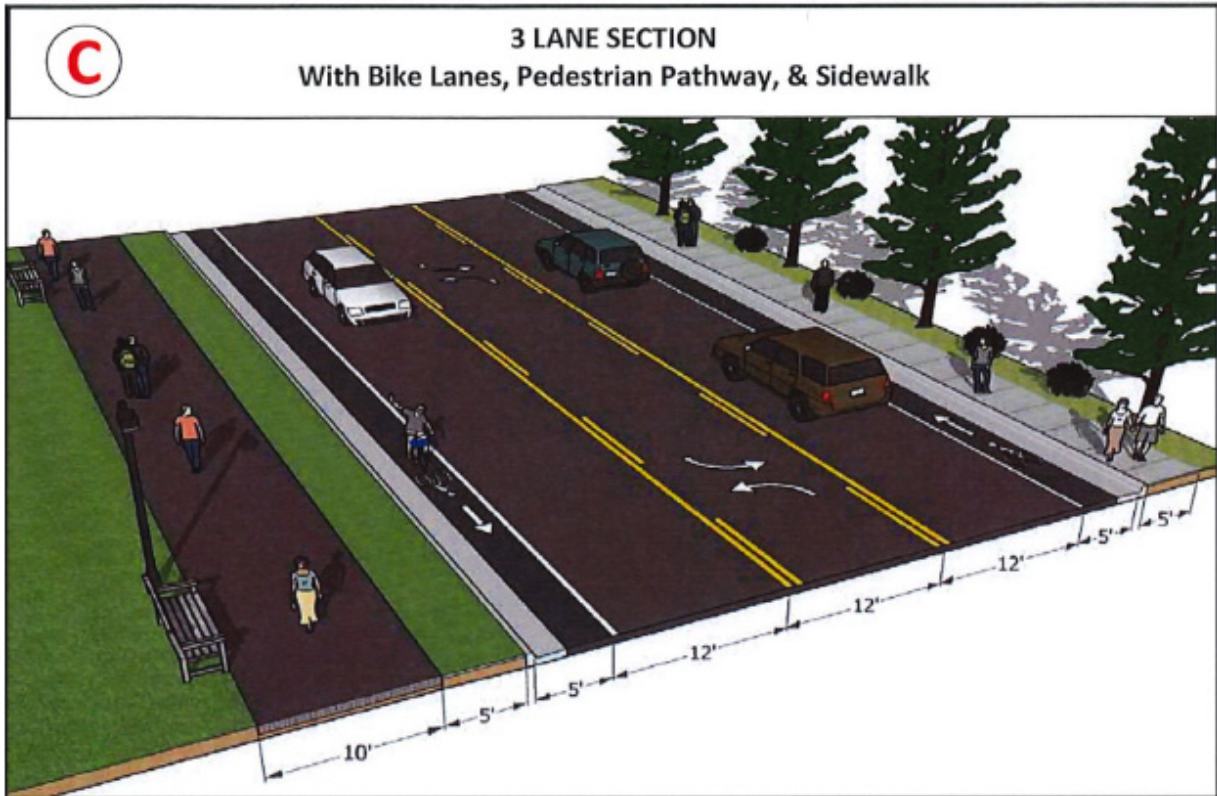
1 **Figure 2-13: Roadway Cross-Sections (To Be Updated)**



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CIRCULATION & TRANSPORTATION

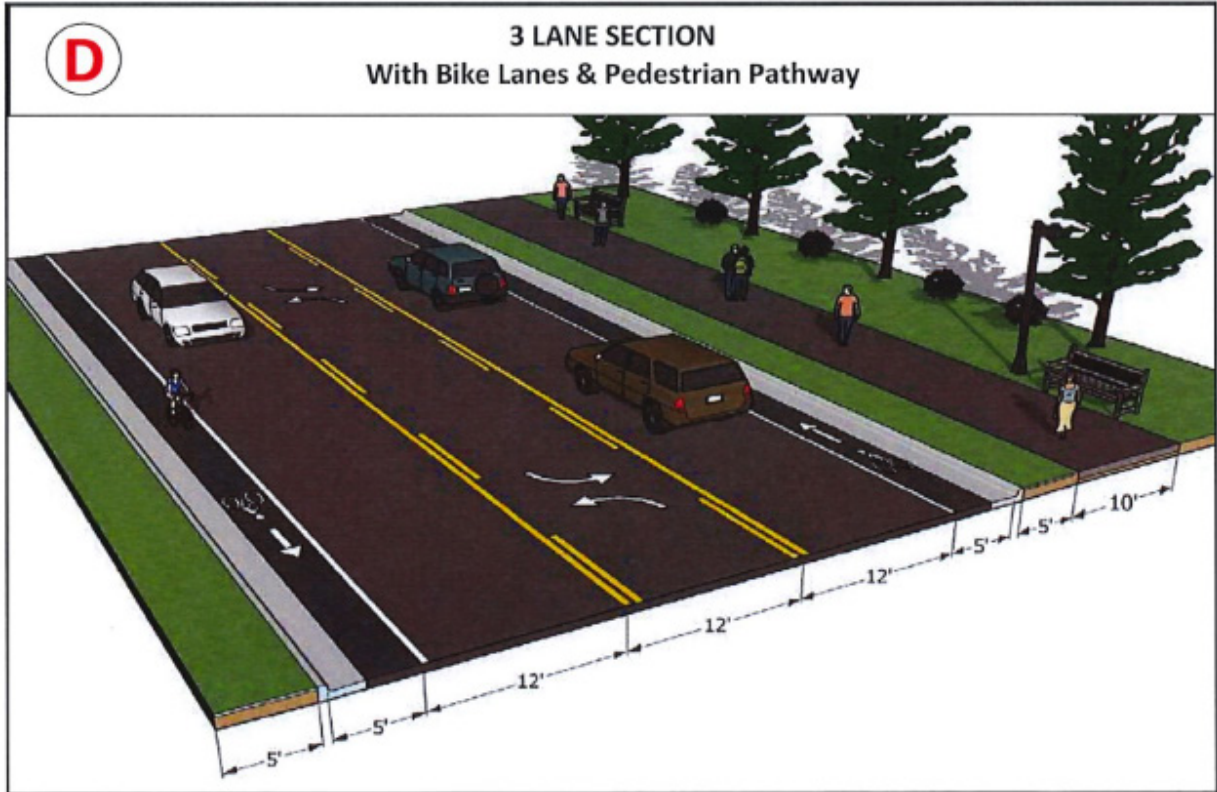
1 **Figure 2-14: Roadway Cross-Sections (To Be Updated)**



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CIRCULATION & TRANSPORTATION

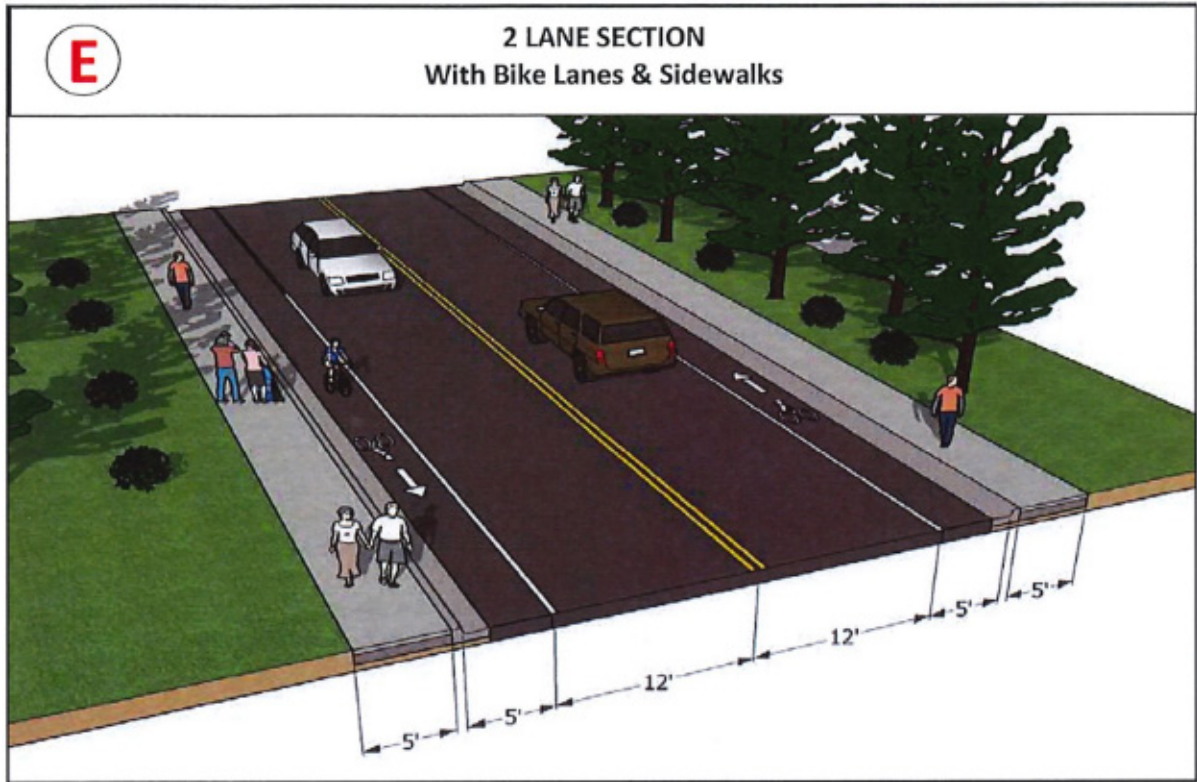
1 **Figure 2-15: Roadway Cross-Sections (To Be Updated)**



2

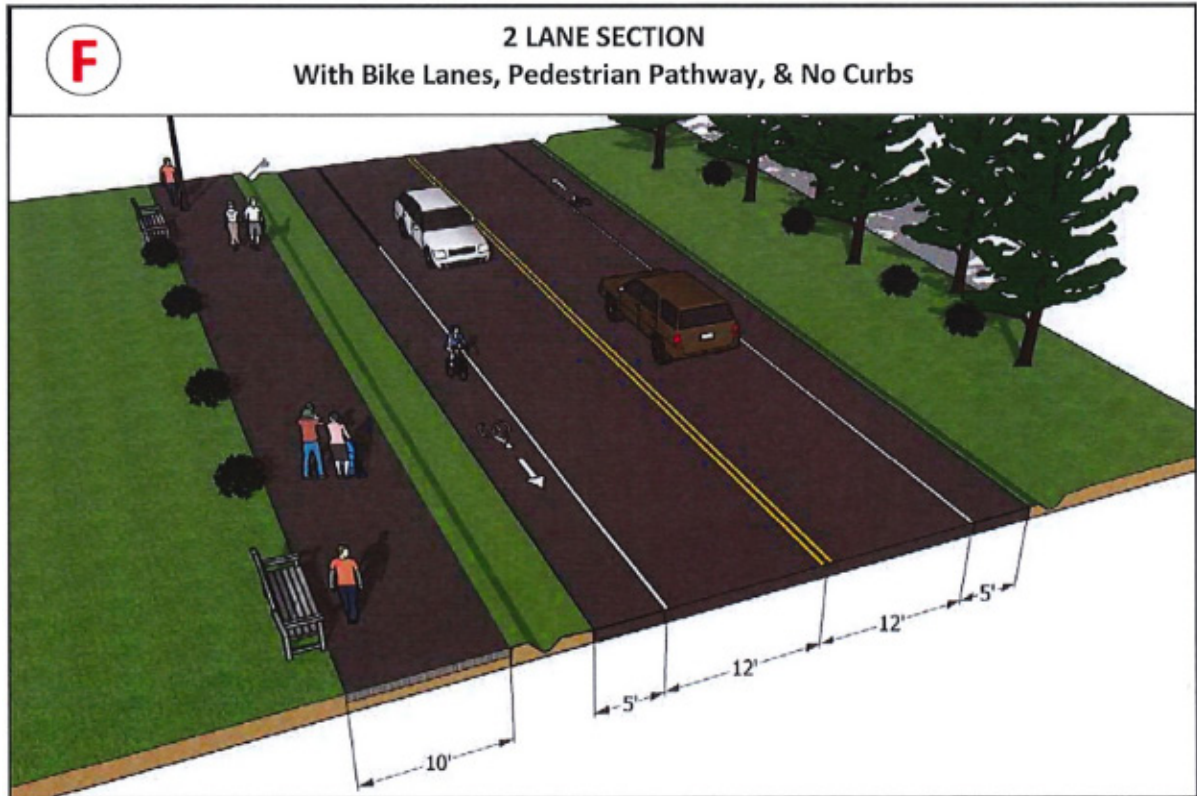
CIRCULATION & TRANSPORTATION

1 **Figure 2-16: Roadway Cross-Sections (To Be Updated)**



2

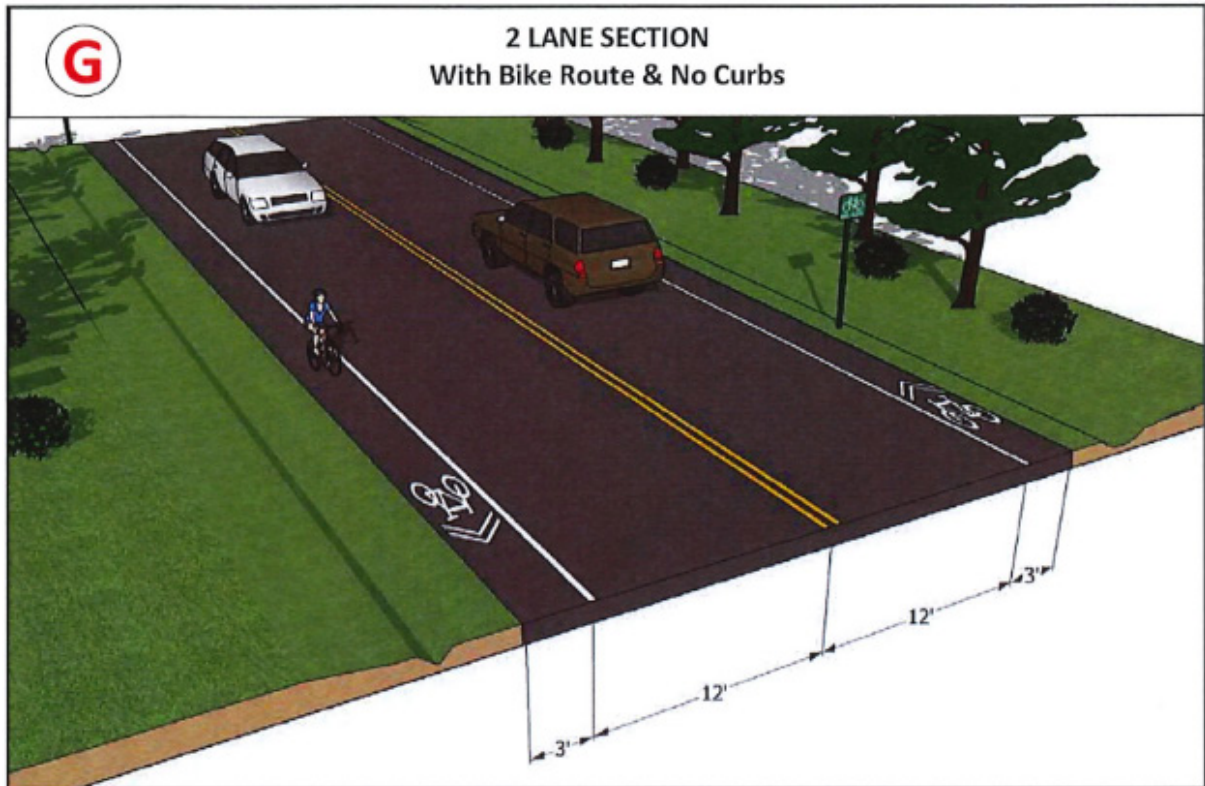
1 **Figure 2-17: Roadway Cross-Sections (To Be Updated)**



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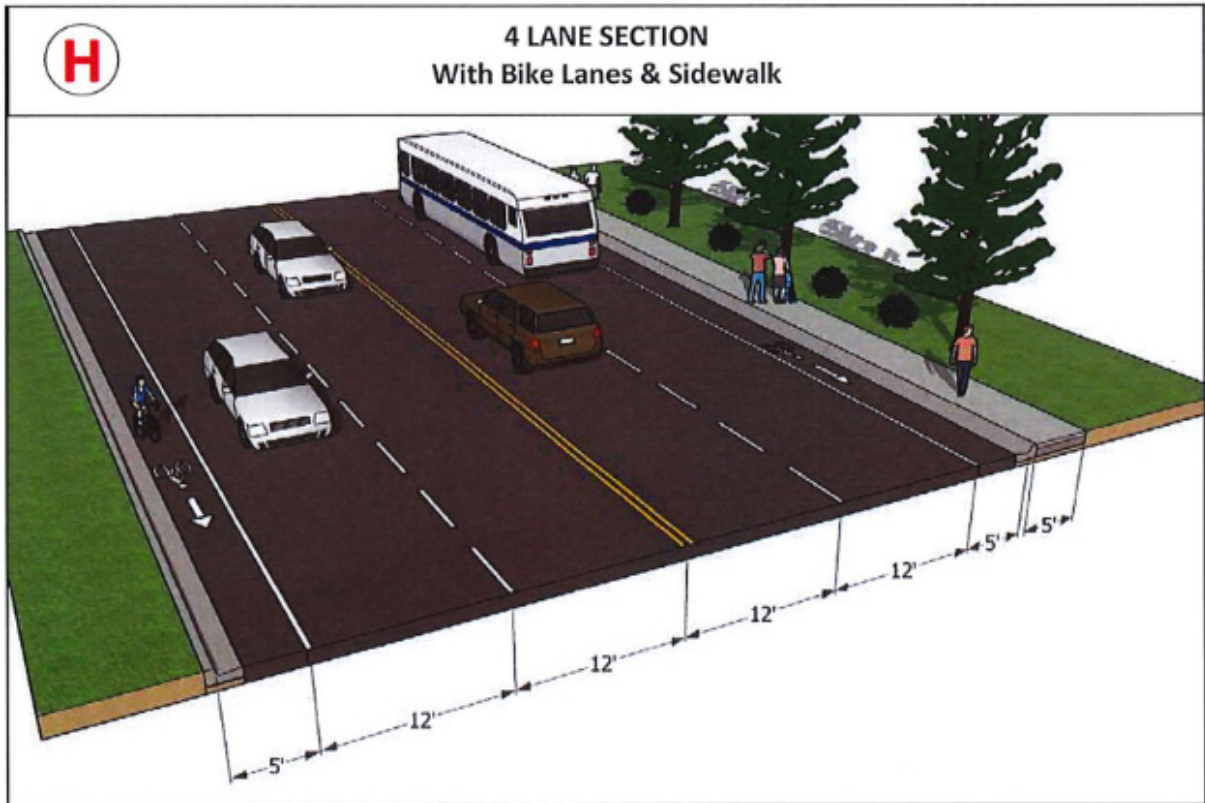
CIRCULATION & TRANSPORTATION

1 **Figure 2-18: Roadway Cross-Sections (To Be Updated)**



2

1 **Figure 2-19: Roadway Cross-Sections (To Be Updated)**



2

CIRCULATION & TRANSPORTATION

1 ***Roadway Capacity Improvements***

- 2 > Boyington Road Extension – Construct a new two-lane collector street from
3 the King Road/Boyington Road intersection to Horseshoe Bar Road.
- 4 > Swetzer Road Extension – Construct a new two-lane collector street from the
5 King Road/Swetzer Road intersection to Sierra College Boulevard north of the
6 UPRR tracks.
- 7 > I-80/Horseshoe Bar Road Interchange Modification – Widen Horseshoe Bar
8 Road at the I-80 overcrossing to four lanes and improve ramps and ramp
9 intersections.
- 10 > Sierra College Boulevard Widening - Segment A – Widen Sierra College
11 Boulevard (within Loomis) to six lanes between Granite Drive and Taylor
12 Road.
- 13 > Sierra College Boulevard Widening - Segment B – Widen Sierra College
14 Boulevard to four lanes between Taylor Road and the northern Town limits.
- 15 > Sierra College Boulevard Railroad Crossing Improvements – Construct a four-
16 lane overcrossing or undercrossing for Sierra College Boulevard at the UPRR
17 tracks.
- 18 > Horseshoe Bar Road Widening – Widen Horseshoe Bar Road to four lanes
19 from the I-80 eastbound ramps to approximately 1,500 feet to the south,
20 including standard lane widths and shoulders and a pedestrian pathway.
- 21 > Rocklin Road Widening – Widen Rocklin Road to four lanes between the west
22 Town limits and Barton Road.
- 23 > I-80/King Road Freeway Access – Modify the existing King Road overcrossing
24 to accommodate freeway access for traffic from King Road onto WB I-80.
25 Provide a transition auxiliary lane on WB I-80 from King Road to the
26 Horseshoe Bar Road interchange.

1 ***Roadway Operations Improvements***

- 2 > Webb Street Improvements – Widen Webb Street between King Road and
3 Taylor Road to include curb, gutter, sidewalk, parking, and turn lanes.
- 4 > New Taylor Road Traffic Signals – Construct new traffic signals at the Taylor
5 Road intersections with Webb Street, Walnut Street, and Brace Road.
- 6 > Horseshoe Bar Road/Brace Road Roundabout – Construct roundabouts at
7 the existing Horseshoe Bar Road/Horseshoe Bar Road and Horseshoe Bar
8 Road/Brace Road/Laird Road intersections.
- 9 > Taylor Road Widening – Widen Taylor Road outside the Downtown Core Area
10 to include a two-way left-turn lane, bike lanes, and a pedestrian path.
- 11 > Rocklin Road/Barton Road Intersection Improvements – Signalize the Rocklin
12 Road/Barton Road intersection.
- 13 > Sierra College Boulevard/Brace Road Signal Modification – Modify the traffic
14 signal at the Sierra College Boulevard/Brace road intersection.
- 15 > Sierra College Boulevard/Bankhead Road Intersection Improvements –
16 Signalize the Sierra College Boulevard/Bankhead Road intersection.
- 17 > Bankhead Road Widening – Widen Bankhead Road to standard lane and
18 shoulder widths, including bike lanes.

19 ***Maintenance & Rehabilitation Improvements***

- 20 > Horseshoe Bar Road Bridge Replacement – Replace the bridge on Horseshoe
21 Bar Road at Secret Ravine Creek. Includes ancillary road work.
- 22 > Brace Road Bridge Replacement – Replace the bridge on Brace Road at Secret
23 Ravine Creek. Includes ancillary road work.
- 24 > Bicycle/Pedestrian Improvements
- 25 > Antelope Creek Class I Path – Construct a Class I bicycle/pedestrian facility
26 along Antelope Creek within Loomis.

CIRCULATION & TRANSPORTATION

- 1 > Secret Ravine Creek Class I Path – Construct a Class I bicycle/pedestrian
- 2 facility along Secret Ravine Creek within Loomis.
- 3 > Taylor Road Class I Bike Path – Extend the Class I bicycle/pedestrian path on
- 4 Taylor Road from its existing terminus at Circle Drive to Walnut Street near
- 5 Downtown.
- 6 > King Road Class II Bike Lanes – Fill in gaps between existing bike lanes on
- 7 King Road within Town limits.
- 8 > Brace Road Bike Lanes – Provide bike lanes on Brace Road between Sierra
- 9 College Boulevard and I-80.
- 10

Chapter

3

NATURAL RESOURCES

1



1 **NATURAL RESOURCES**

2 **INTRODUCTION**

3 This chapter summarizes information concerning the natural resources of the
4 Planning Area, including aquatic resources, soils, biological communities including
5 sensitive habitats, and special-status plant and wildlife species. It represents a
6 compilation of existing published information combined with reconnaissance-level
7 field surveys that have been conducted within the Town limits.

8 **AQUATIC RESOURCES**

9 **Surface Water**

10 The Planning Area is located within the Loomis Basin, a relatively shallow depression
11 covering 88 square miles between the Sierra Nevada and the floor of the
12 Sacramento Valley. Technically, the Loomis Basin is not a basin at all, as it is drained
13 by several tributaries of westward-trending streams flowing from higher elevations.
14 Several manmade water features, including reservoirs and canals, are also present
15 within Loomis. The most important surface water features within the Planning Area
16 are described below and shown on Figure 3-1.

17 ***Lower American Watershed***

18 The Lower American watershed (HUC 8:18020111) encompasses the Planning Area.
19 The major tributaries of the Lower American watershed within Loomis are described
20 below.

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NATURAL RESOURCES

1 ***Antelope Creek***

2 Antelope Creek is the northwesternmost of the three primary tributaries of Dry
3 Creek within the Planning Area. The smallest of these tributaries, it roughly parallels
4 Sierra College Boulevard before crossing it to the west south of King Road. In
5 Loomis, Antelope Creek drains the western portion of the Town. Antelope Creek
6 ultimately flows through the cities of Rocklin and Roseville before joining Dry Creek
7 near Sculpture Park in Roseville.

8 ***Secret Ravine***

9 Secret Ravine is the primary drainage in the Town south of Interstate 80, and
10 roughly parallels the freeway from its headwaters in Newcastle. After leaving the
11 Town, it flows through the city of Rocklin before joining Miners Ravine in Roseville.
12 From there, the stream enters Dry Creek at Sculpture Park in Roseville.

13 ***Sucker Ravine***

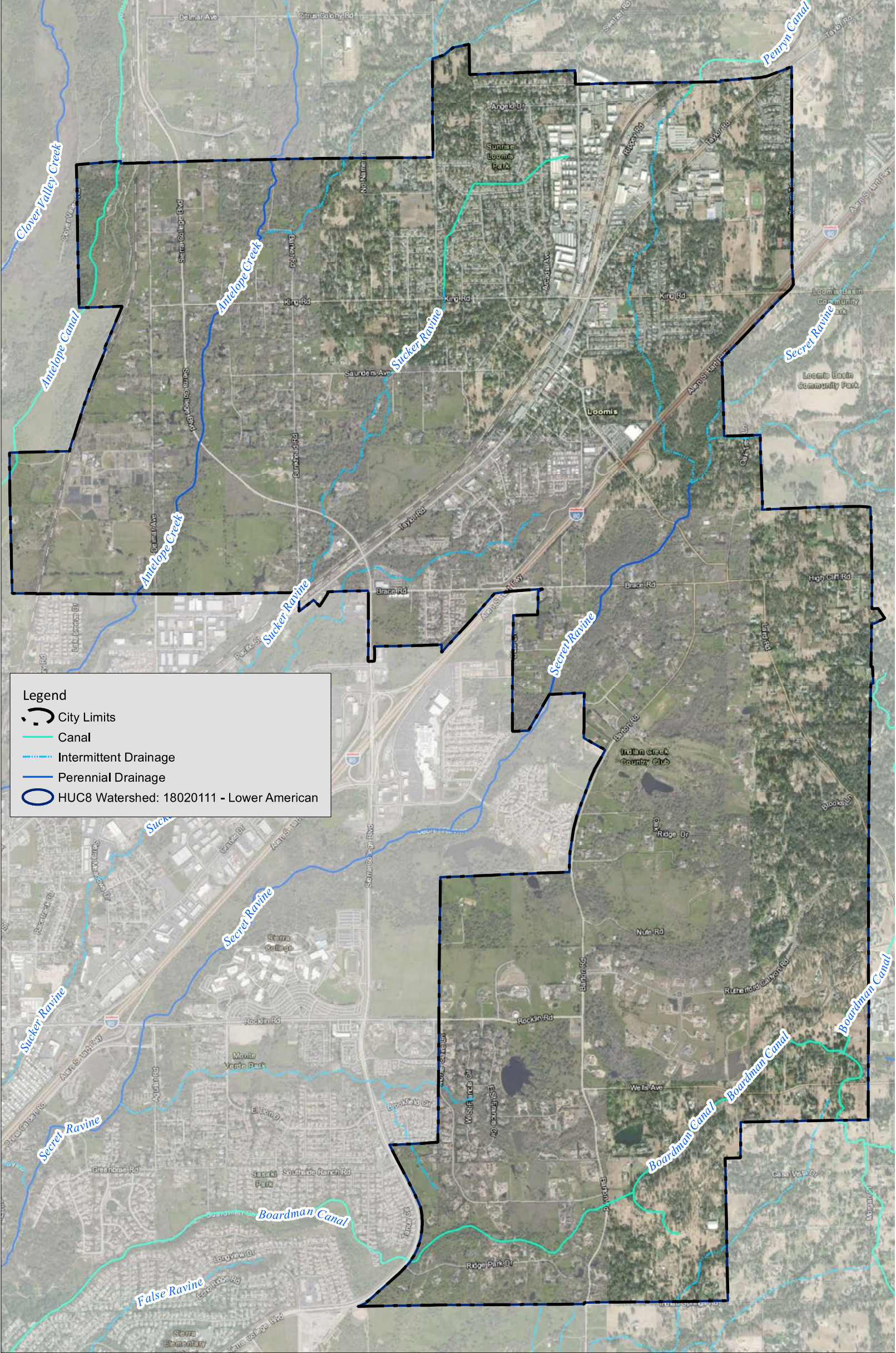
14 Sucker Ravine is the smallest of the primary drainages within the Loomis town
15 limits. This minor creek system drains the northwestern part of Loomis and has
16 been partially realigned and modified for flood control purposes. Sucker Ravine
17 crosses under Taylor Road and Interstate 80, ultimately joining Secret Ravine in the
18 city of Rocklin.

19 ***Clover Valley Creek***

20 Though outside of the existing Town limits, this tributary of Antelope Creek runs in a
21 narrow valley just inside the western edge of the Planning Area. It is physically
22 separated from the Town by a distinctive ridge, and no direct roadway access from
23 Loomis is available. It eventually empties into Antelope Creek about a mile
24 southwest of Loomis, in the city of Rocklin.

25

1 Figure 3-1: Surface Water Features



2

NATURAL RESOURCES

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1 ***Unnamed Drainages***

2 Two significant unnamed drainages traverse the Town, flowing from north to south.
3 The first begins just north of Del Oro High School and crosses Taylor Road and
4 Interstate 80 before joining Secret Ravine. The second begins in Penryn and joins
5 Antelope Creek in the northwestern part of the Town near King Road.

6 ***Lakes and Reservoirs***

7 No natural lakes of any substantial size are located within the Loomis Planning Area.
8 However, several small unnamed reservoirs, built primarily for flood control or
9 water storage purposes, are found within the Town. These features are generally
10 located on private property.

11 ***Canals***

12 Several manmade canals, most notably the Boardman Canal, traverse the southern
13 portion of Loomis. The Boardman Canal flows through the Planning Area and
14 terminates in Roseville Reservoir within the city of Roseville. The canals are owned
15 and operated by the Placer County Water Agency (PCWA), the service provider for
16 the Town. The source of most of the water for these canals is the Yuba/Bear River.

17 **Groundwater Resources**

18 Bulletin 118, "California's Groundwater," published by the California Department of
19 Water Resources (DWR 2020), defines the recognized groundwater basins and
20 subbasins throughout the state. The Town of Loomis, along with the central and
21 most of the eastern portions of Placer County, are not located within a groundwater
22 basin designated by DWR (DWR 2020). These areas of Placer County consist of
23 bedrock, which forms the Sierra Nevada mountains and foothills. Groundwater in
24 the Sierra Nevada mountains and foothills is not held in large "pools" in the
25 underground rock strata as it is on the Central Valley floor; rather, groundwater is
26 held in small pores and fractures within the bedrock. This makes it difficult to gauge

NATURAL RESOURCES

1 how much water is available, or the depth at which it may be encountered where
2 levels are sufficient to provide enough flow for well usage.

3 The eastern boundary of the North American Subbasin, the most proximate
4 subbasin to the Town of Loomis, lies between the cities of Roseville and Rocklin,
5 approximately 3.5 miles southwest of the Town of the Loomis. The eastern subbasin
6 boundary represents the approximate edge of the water-bearing alluvial basin,
7 where little or no groundwater flows into or out of the groundwater basin from the
8 Sierra Nevada basement rock. Under the Sustainable Groundwater Management
9 Act, local groundwater management agencies must act in the capacity of designated
10 Groundwater Sustainability Agencies (GSAs). There are five designated GSAs that are
11 cooperatively working together to manage the North American Subbasin. The Placer
12 County Water Agency (PCWA) is part of the West Placer County GSA. For subbasins
13 that are not in critical overdraft, such as the North American Subbasin, the GSAs
14 must prepare and implement a Groundwater Sustainability Plan by January 31,
15 2022. Preparation of the Groundwater Sustainability Plan for the North American
16 Subbasin is in process (West Placer County Groundwater Sustainability Agency
17 2021). The Groundwater Sustainability Plan must take into account future water
18 needs throughout the service areas of the combined GSAs, which includes the minor
19 amount of future groundwater used by PCWA to supply its customers (including the
20 Town of Loomis). Rural areas of the Town of Loomis are served by private
21 groundwater wells, for which no data is available. Because the Town of Loomis is not
22 located in an area where there is a designated groundwater basin, water from local
23 groundwater wells is not subject to the requirements of the Sustainable
24 Groundwater Management Act—a three-bill package composed of Assembly Bill
25 1739, Senate Bill 1168, and Senate Bill 1319 that was signed into law in September
26 2014.

27 The more urbanized areas of the Town of Loomis are supplied with potable water by
28 PCWA. Water provided by PCWA is primarily from surface water supply sources,
29 which consist of: (1) water from the North Fork American River and its tributaries
30 (including water from PCWA's Middle Fork American River Project); (2) Central Valley
31 Project water from the American River, and (3) water purchased from Pacific Gas &
32 Electric from the Yuba and Bear Rivers (Tully & Young 2016). PCWA may also draw
33 groundwater from the North American Subbasin in dry hydrologic conditions if
34 surface water supplies are limited. However, this groundwater supply for PCWA is

1 limited to two wells, each with a production capacity of 1,000 acre-feet per year
2 (Tully & Young 2016).

3 **Water Quality**

4 The primary sources of pollution to surface and groundwater resources include
5 stormwater runoff from paved areas, which can contain hydrocarbons, sediments,
6 pesticides, herbicides, toxic metals, and coliform bacteria. Seepage from sewage
7 treatment lagoons can further contribute to degraded water quality in the form of
8 elevated nitrate levels. Improperly placed septic tank leach fields can cause similar
9 types of contamination. Illegal waste dumping can introduce contaminants such as
10 gasoline, pesticides, herbicides, and other harmful chemicals.

11 The use of septic tanks in the area may adversely affect both surface and
12 groundwater quality. Parts of the Planning Area are subject to high nitrate
13 concentrations from overuse of septic tanks and agricultural uses. While no detailed
14 study has been performed, several shallow wells have shown high nitrate
15 concentrations, suggesting surface contamination. Septic tanks are also a source of
16 pollution to some wells in both alluvial and granitic rocks. Septic tanks discharging
17 into alluvium have a high potential to pollute wells producing from the same deposit
18 because of high permeability and low gradient. In the winter, the rains raise the
19 water table in these areas, which can exacerbate possible contamination.

20 **TOPOGRAPHY**

21 The topography within the Planning Area ranges from nearly level interspersed with
22 rolling hills and a few steeper escarpments, such as the Mehrten ridge at the
23 western edge of the Planning Area adjacent to the eastbound Union Pacific rail line.
24 The highest elevations range from 540-580 feet above sea level, both along the
25 Mehrten ridge and among the rises in the southeastern portion of the Planning
26 Area. The lowest elevations are along Secret Ravine and Antelope Creek (300-340
27 feet), which generally traverse the area from northeast to southwest. Most of
28 downtown Loomis lies at about 400 feet, above the immediate flood plains of the
29 two creeks. Interstate 80, Taylor Road and the rail lines follow the easiest grades as

NATURAL RESOURCES

1 they slowly gain elevation when traveling eastbound, gaining from about 40 feet in
2 the case of the freeway to about 160 feet in the case of Taylor Road.

3 **AGRICULTURAL LANDS**

4 Agricultural activities in and around Loomis began as early as the turn of the 19th
5 century. Early pioneers, prior to the Donner party and the gold rush, planted fruit
6 trees and eventually vineyards in the area now known as Loomis. The Loomis Basin
7 soon was known as an excellent location to grow fruit. With the construction of the
8 Central Pacific Railroad through the town in 1864, and a local train station, Loomis
9 soon became a focal point as a fruit shed and shipping depot.

10 The Town of Loomis is no longer a significant commercial agricultural area. Hobby
11 farming occurs on rural residential parcels and in adjacent areas. Residents and
12 visitors value the open views of farming activities in the surrounding landscape.

13 **SOILS**

14 The *Soil Survey of Placer County, Western Part* (USDA, Natural Resources Conservation
15 Service, 1980) identified sixteen soil series within the Planning Area (Figure 3-2. Soil
16 Types), including:

- 17 > Andregg Coarse Sandy Loam (Types 106, 107, and 108),
- 18 > Andregg Coarse Sandy Loam, Rocky (109 and 110);
- 19 > Caperton-Andregg Coarse Sandy Loams (130);
- 20 > Caperton-Rock Outcrop Complex (133);
- 21 > Exchequer Very Stony Loam (144);
- 22 > Exchequer-Rock Outcrop Complex (145);
- 23 > Inks Cobbly Loam (152);
- 24 > Inks Very Cobbly Sandy Clay Loam (153)

- 1 > Inks-Exchequer Complex (154)
- 2 > Rubble Land (180);
- 3 > Xerofluvents, frequently flooded (194);
- 4 > Xerorthents, cut and fill areas (196); and
- 5 > Xerothents, placer areas (197).

6 By far the most common of these types within the Planning Area are the Andregg
7 and Caperton-Andregg soils, found throughout the Planning Area. In general, soils
8 within the Planning Area exhibit one or more physical constraints to development.
9 Many soils are rocky or cobbly, or percolate slowly because of a cemented
10 underlying pan. Most soils are relatively shallow, rarely more than five feet and more
11 typically about one to two feet. The shallow depth to rock often makes excavation
12 difficult, while the wet-clay characteristics of the common Andregg soil inhibit many
13 uses. Other soils are subject to flooding due to their proximity to creeks. These soil
14 types are described below.

15 **Andregg Coarse Sandy Loam, 2 to 9% Slopes (106)**

16 This is a moderately deep, gently rolling, well-drained soil underlain by weathered
17 granitic bedrock. Typically, the surface layer of Andregg soil is grayish brown coarse
18 sandy loam about 15 inches thick. The subsoil is pale brown and very pale brown
19 coarse sandy loam. Permeability is moderately rapid and the erosion hazard is
20 moderate.

21 **Andregg Coarse Sandy Loam, 9 to 15% Slopes (107)**

22 This soil type is similar to the previously described Andregg soil (106), except it is
23 found on steeper slopes. Consequently, it has similar appearance and permeability
24 characteristics, but exhibits a high erosion hazard. Surface runoff associated with
25 this soil is medium to rapid.

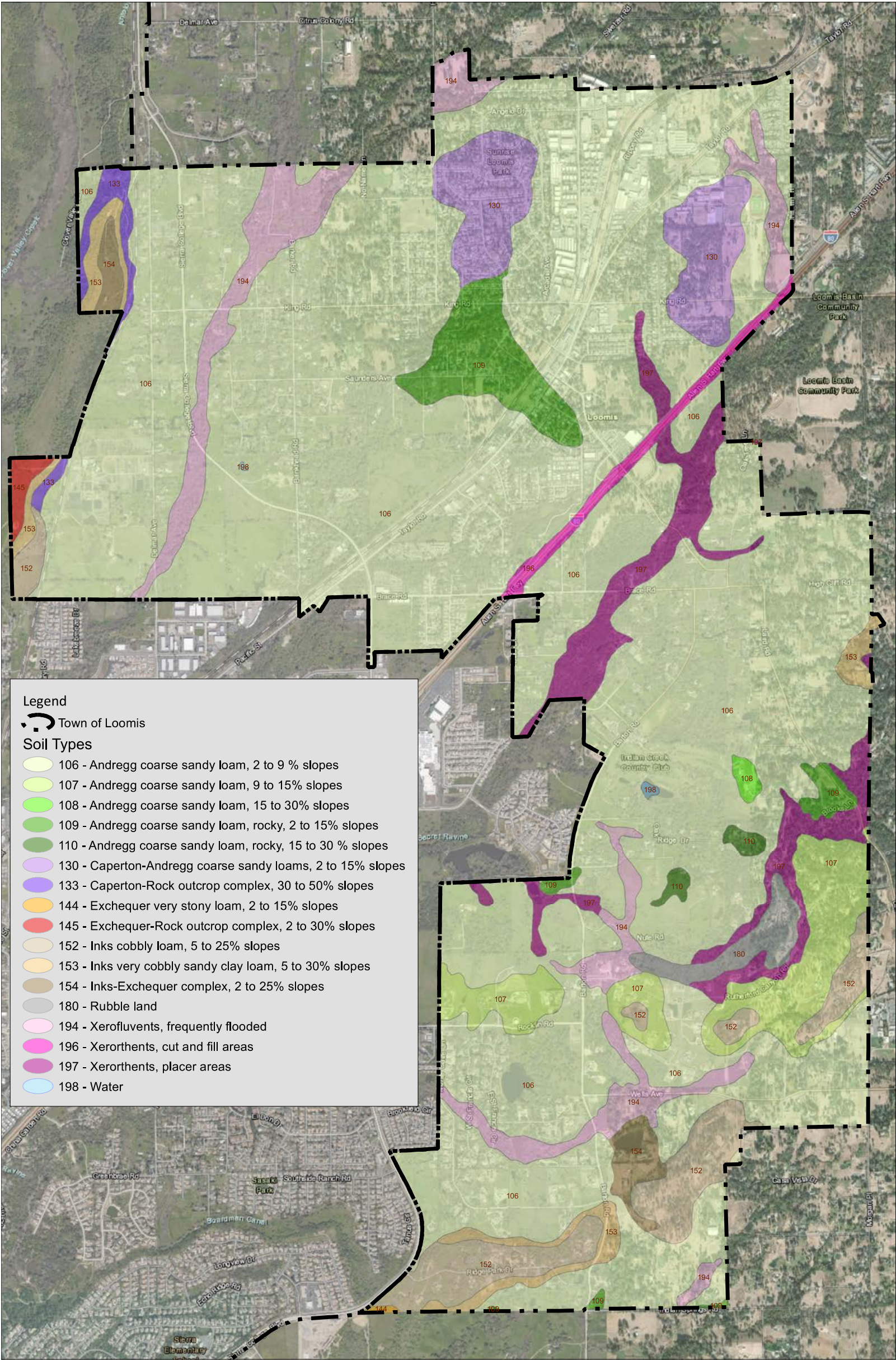
NATURAL RESOURCES

1 **Andregg Coarse Sandy Loam, 15 to 30% Slopes (108)**

2 This is similar to the previously described Andregg soil (106), except it is found on
3 steeper slopes.

4

1 Figure 3-2. Soil Types



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1 **Andregg Coarse Sandy Loam, Rocky, 2 to 15% Slopes (109)**

2 This is similar to the previously described Andregg soils. It is well drained. Surface
3 runoff is low. The parent material is not classified as hydric although there are minor
4 components of this series that are considered hydric located in drainages.

5 **Andregg Coarse Sandy Loam, Rocky, 15 to 30% Slopes (110)**

6 This soil series is similar to the previously described Andregg soils. It is well drained.
7 Surface runoff is classified as medium. This soil series is not classified as hydric.

8 **Caperton-Andregg Coarse Sandy Loam, 2 to 15% Slopes**
9 **(130)**

10 Caperton-Andregg soils are shallow (8 to 20 inches deep) and somewhat excessively
11 drained gravelly sandy loams that exhibit moderate erosion potential and low
12 shrink-swell potential.

13 **Caperton-Rock Outcrop Complex, 30 to 50% Slopes (133)**

14 Caperton soils are shallow (0 to 4 inches deep) and somewhat excessively drained.
15 The runoff class is medium. This soil series is not rated as hydric.

16 **Exchequer Very Stony Loam, 2 to 15% Slopes (144)**

17 This soil series is shallow (0 to 11 inches deep) and somewhat excessively drained.
18 The runoff class is medium. This soil is not classified as hydric although there are
19 some minor unnamed components found in drainageways and depressions that are
20 classified as hydric.

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1 **Exchequer-Rock Outcrop Complex, 2 to 30% Slopes (145)**

2 These soils are shallow (0 to 4 inches) and somewhat excessively drained. Surface
3 runoff is classified as medium. This soil is not classified as hydric although there are
4 some minor unnamed components found in drainageways and depressions that are
5 classified as hydric.

6 **Inks Cobbly Loam, 5 to 25% Slopes (152)**

7 This is a shallow, well-drained cobbly soil underlain by andesitic conglomerate. The
8 surface layer is generally yellowish brown cobbly loam about five inches thick. The
9 subsoil is brown very cobbly clay loam. Permeability is moderate, surface runoff is
10 medium to rapid, and the erosion hazard is highly variable (slight to high).

11 **Inks Very Cobbly Sandy Clay Loam, 5 to 30% Slopes (153)**

12 This is a shallow, well-drained soil. Permeability is moderate. Surface runoff is
13 medium. This soil is not classified as hydric.

14 **Inks-Exchequer Complex, 2 to 25% Slopes (154)**

15 These soils are shallow (0 to 11 inches) and somewhat excessively drained. Surface
16 runoff is classified as medium. This soil is not classified as hydric although there are
17 some minor components found in depressions that are classified as hydric.

18 **Rubble Land (180)**

19 Rubble land is cobbly and stony mine debris and tailings from dredge or hydraulic
20 mining. It is essentially barren; grass and brush are sparse. Nearly all soil material
21 either has been washed away from hydraulic mining or buried from dredge mining.
22 Surface runoff and erosion hazard are variable. Rubble land is used mainly for
23 watershed and provides limited wildlife habitat. Some areas are a source of
24 aggregate.

1 **Xerofluvents, Frequently Flooded (194)**

2 These soils consist of narrow stringers of somewhat poorly drained recent alluvium
3 adjacent to stream channels. These are variably colored, stratified gravelly clay or
4 sandy loams that generally grade to sand and gravel with increasing depth.
5 Permeability is variable, surface runoff is slow, and erosion hazard is high. The soils
6 are subject to frequent flooding and channelization.

7 **Xerorthents, Cut and Fill Areas (196)**

8 These soils consist of stony, cobbly and gravelly material commonly adjacent to
9 streams that have been placer mined. This soil varies in depth from 0 to 60 inches.
10 Permeability, runoff, erosion hazard, and drainage are highly variable. This soil
11 series is not classified as hydric.

12 **Xerothents, Placer Areas (197)**

13 These soils consist of stony, cobbly and gravelly material commonly adjacent to
14 streams that have been placer mined. The soil material is derived from a mixture of
15 rocks. It is stratified or poorly sorted. Such soils contain enough fine sand and silt to
16 support some grass. The depth of this soil is highly variable, ranging from as little as
17 6 inches to more than five feet. Permeability, runoff, erosion hazard, and drainage
18 are highly variable. Such areas are frequently flooded because of their typical
19 proximity to streams.

20 **BIOLOGICAL RESOURCES: FLORA & FAUNA**

21 This section provides a generalized overview of the vegetation and wildlife resources
22 found within the Planning Area. It includes sections on biological communities,
23 special-status plant and animal species, and a discussion of wildlife movement
24 corridors.

NATURAL RESOURCES

1 **Biological Communities**

2 The Planning Area includes both urban and rural elements in a topographically
3 diverse setting. As such, it supports a variety of natural and artificial biological
4 communities, as shown in Table 3-1:

5 The vegetation community descriptions in this section and in Figure 3-3 generally
6 follow the *Preliminary Descriptions of the Terrestrial Natural Communities of California*
7 (Holland 1986) because the vegetation community mapping currently available for
8 the Planning Area utilizes this reference source for naming vegetation communities.
9 However, it should be noted that *The Manual of California Vegetation* (Sawyer, Keeler-
10 Wolf, Evens, 2009) is now generally used in the State of California to describe
11 vegetation communities. Some equivalent communities from Sawyer, Keeler-Wolf,
12 Evens are provided in Table 3-1. These habitat types are grouped by sensitivity, as
13 described below.

14

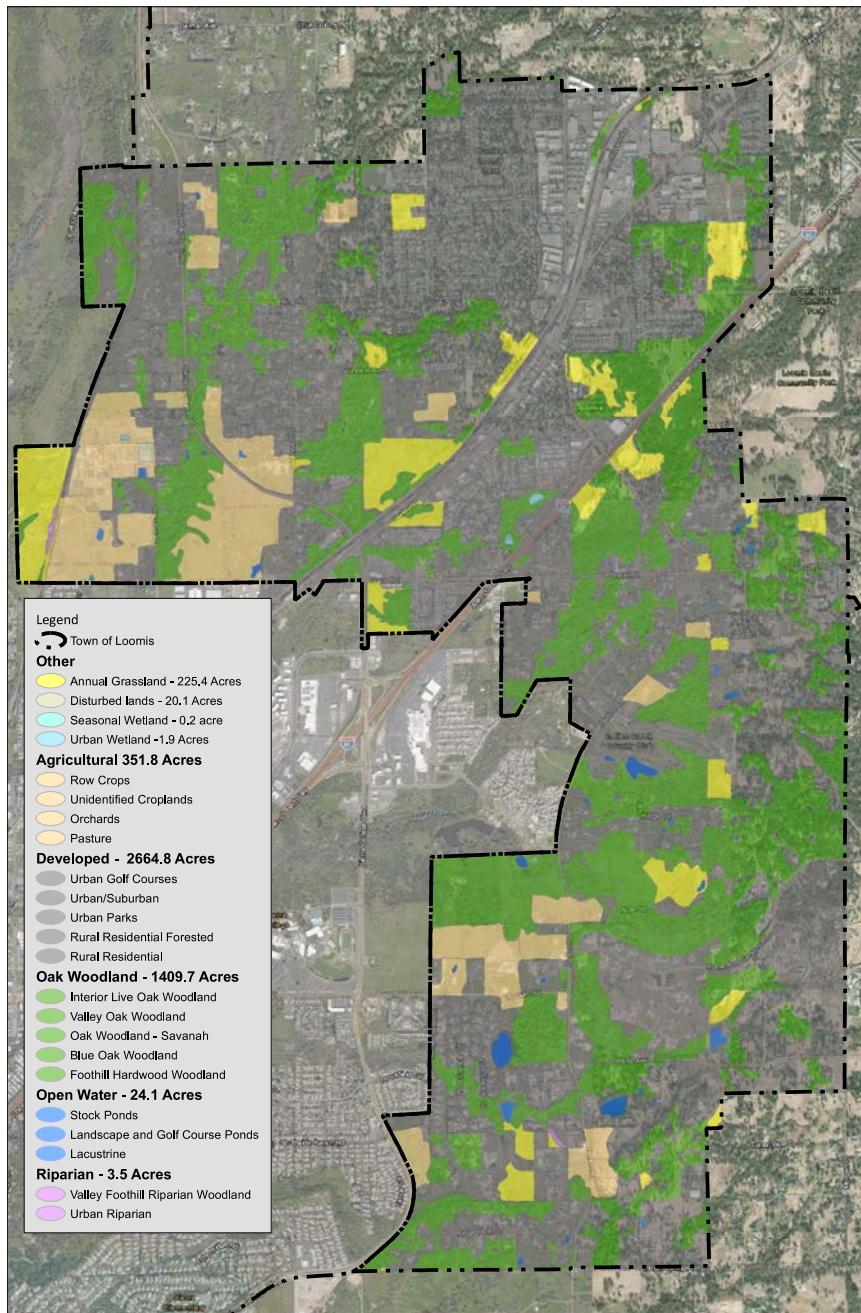
Table 3-1: Planning Area Biological Communities and Sensitivity		
Biological Community	Sensitivity *	Manual of California Vegetation Equivalents
Oak Woodland and Savanna	Sensitive	<i>Quercus</i> forest alliance, <i>Quercus douglasii</i> forest alliance, <i>Quercus wislizeni</i> woodland alliance, <i>Quercus lobata</i> forest alliance
Riparian and Stream Habitat	Sensitive	<i>Salix</i> forest and woodland alliance, <i>Populus fremontii</i> forest and woodland alliance
Wetlands and other Aquatic Resources	Sensitive	Wetlands within oak woodland and grassland alliances.
Native Perennial	Sensitive	<i>Nasella pulcra</i> alliance
Non-native Annual Grasslands	Common	<i>Lolium perrene</i> alliance, Avena-Bromus semi-natural alliance
Developed/ Urban Landscape	Artificial	N/A
Agriculture	Artificial	N/A

Sources: Jones and Stokes Associates 2004, HELIX Environmental Planning 2020

* See text following for explanation of this notation

NATURAL RESOURCES

1 **Figure 3-3. Landcover Map**



2

1 ***Sensitive Natural Communities***

2 For the purpose of this report, a sensitive natural community refers to those that
3 are of special concern to resource agencies or those that are protected under CEQA,
4 Section 1600 of the California Fish and Game Code (i.e., riparian areas) and/or
5 Sections 401 and 404 of the Clean Water Act, which include wetlands and other
6 waters of the U.S. or State, or communities that are protected under the specific
7 state and regional policies such as oak woodlands. In the Planning Area, oak
8 woodland, native perennial grasslands, riparian and stream habitat, and wetlands
9 are considered sensitive biological communities. These are given special
10 consideration because they provide important ecological functions, including water
11 quality maintenance, stream bank stabilization, and the provision of essential
12 habitat for wildlife and fisheries resources. These communities are typically limited
13 in extent compared to their historical distribution due to clearing for agriculture and
14 other development activity. Sensitive natural communities are afforded special
15 consideration under federal, state and county laws. A brief description of these
16 communities follows. A map of biological communities within the Planning Area is
17 provided in Figure 3-3. Landcover mapping is based on several sources including
18 previous vegetation mapping efforts in the region and some limited aerial photo
19 interpretation (Jones and Stokes/Placer County, 2003; HELIX Environmental Planning
20 2020). Vegetation community mapping should be considered preliminary unless
21 site-specific vegetation mapping has occurred. The actual extent of riparian
22 vegetation along major drainageways within the Town is almost certainly more
23 extensive than shown in Figure 3-3. Field mapping of riparian communities within
24 the Town is considered a priority to more accurately document the extent of riparian
25 habitat within the Planning Area.

26 **Oak Woodland and Savanna**

27 Blue oak woodland, valley oak woodland, interior live oak woodland, and oak
28 woodland savanna are the dominant oak associations that occur throughout the
29 Planning Area. There are also areas of foothill hardwood woodland and that contain
30 significant oak woodland canopy mixed with other tree species such as foothill pine.

NATURAL RESOURCES

1 *Blue oak woodland* occurs primarily in the portions of the Planning Area that support
2 shallow or infertile soils. Typically, blue oak woodland includes a mixture of blue
3 oak, foothill pine, buck brush, coffee berry and various grassland species.

4 *Interior live oak woodland* occurs in lower-lying portions of the Planning Area,
5 typically along riparian and stream corridors. In some areas, interior live oaks form a
6 dense woodland with an understory comprised of annual and perennial grassland
7 species. In other areas, interior live oaks intermix with foothill pine, California
8 buckeye, buck brush, coyote brush, poison oak, coffeeberry and grassland species.

9 *Valley oak woodland* occurs on deep alluvial soils along streams and riparian
10 corridors in the low-lying portions of the Planning Area. Several valley oak woodland
11 communities contain large, heritage-size valley oaks. The understory in a valley oak
12 woodland is usually composed of pasture grassland and annual grassland species.

13 *Oak woodland savannah* occurs in areas with more open and non-overlapping oak
14 canopy often in association with pastures. Oak woodland and savanna provide
15 shelter, breeding, and foraging habitat for many of the wildlife species typically
16 found in grassland habitats. Oak acorns are an important food source for wild
17 turkeys, acorn woodpeckers, northern flickers, and mule deer. Oaks also provide
18 nest sites for western gray squirrels and cavity-nesting birds, including acorn
19 woodpeckers, northern flickers, and white-breasted nuthatches.

20 **Riparian Habitat**

21 Riparian communities develop in areas with high water tables that support seasonal
22 and perennial (permanent) surface water. Riparian communities are common along
23 streams, ponds, and swales in the Planning Area, most notably Secret Ravine and
24 Antelope Creek. There are many variations of riparian habitat types. Three basic
25 types commonly found in the Planning Area include mixed riparian woodland,
26 riparian forest, and willow scrub. These are described below.

27 *Mixed riparian woodland* is the dominant riparian community in the Planning Area,
28 and is characterized by intermixed layers of trees, shrubs and herbaceous species.
29 Typical plants include Fremont's cottonwood, valley oak, willows, California

1 blackberry, Himalayan blackberry, California rose, blue elderberry, poison oak,
2 sedges, rushes, and grasses.

3 *Riparian forest* is found in the Planning Area particularly along Secret Ravine. Two
4 basic types of riparian forest are present, cottonwood and oak, both of which are
5 structurally complex and varied plant communities. Cottonwood riparian forest is
6 characterized by a canopy of Fremont's cottonwood, valley oak, and alders,
7 overtopping a tangle of Himalayan blackberry, poison oak, wild honeysuckle, and
8 arroyo willow. The canopy of oak riparian forest is dominated by mature valley oaks,
9 with scattered black willow. The understory is comprised of poison oak, pipevine,
10 creeping wild rye, and Himalayan blackberry.

11 *Willow scrub* is an early-colonizing riparian community dominated by sandbar willow,
12 mugwort, rush and sedge. It also forms along small creeks and drainages that lack
13 the water supply necessary to develop woodland and forest communities.

14 Riparian and stream communities provide habitat for a variety of plant and wildlife
15 species in the Planning Area. The multi-layered riparian community provides escape
16 cover, forage and nesting opportunities for a variety of species. Typical wildlife that
17 are found in riparian and stream habitats include California quail, Bewick's wren,
18 song sparrow, red-shouldered hawk, Cooper's hawk, raccoon, coyote, cottontail,
19 opossum, striped skunk, gray fox, and mule deer. Central Valley (CV) fall/late fall run
20 Chinook salmon and CV steelhead utilize Dry Creek, Secret Ravine, and Antelope
21 Creek for spawning and rearing habitat and are designated as Critical Habitat for CV
22 steelhead.

23 **Native Perennial Grassland**

24 These grasslands are dominated by native grasses such as purple needlegrass,
25 woodland ryegrass, and California melic grass. Perennial grasslands historically
26 extended throughout the state and comprised one of the most extensive plant
27 associations in the state, but native grasslands have largely been replaced by annual
28 grasslands composed of Mediterranean species that had adapted to heavy grazing
29 pressure. For this reason, most native grassland associations are considered
30 sensitive by the California Natural Diversity Data Base. Besides grasses, perennial
31 grasslands typically support a larger number of native forb species and wildflowers

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1 than the annual grasslands. Annual wildflowers include harvest brodiaea, soap
2 plant, tarplant, lupine, and mariposa lily. Native perennial grasslands typically occur
3 on north-facing, mesic slopes near oak woodlands and savannas.

4 **Wetlands and Other Aquatic Resources**

5 Wetlands include a variety of habitats that are characterized by a prevalence of
6 hydrophytic (water-loving) vegetation, hydric soils, and wetland hydrology. Natural
7 and artificially-created wetlands exist throughout the low-lying portions of the
8 Planning Area, typically along drainages or in topographic depressions. Wetlands
9 and other aquatic resource types in the Planning Area include ephemeral streams,
10 intermittent streams, perennial streams, ponds, marsh, ditches, canals, swales,
11 seeps and springs, and seasonal freshwater wetlands, including vernal pools.

12 Seasonal freshwater wetlands occur within annual grasslands as swales and shallow
13 depressions underlain by slowly permeable soils. These wetlands are typically wet
14 from November to May. Vegetation is a mix of wetland and upland species including
15 perennial ryegrass, popcornflower, creek monkeyflower, spikerush, soft chess,
16 tarweed, long-beak filaree, and medusa-head grass. Vernal pools occur on the
17 impermeable Mehrten breccia that exists on ridge tops within the Planning Area.

18 Vernal pools, intermittent drainages, and other seasonal wetlands represent unique
19 natural resource habitats within the Planning Area and the state. Vernal pools are
20 considered sensitive habitat areas not only due to their limited occurrence and
21 distribution, but also because they support several unique, and often rare, plant and
22 animal species that are endemic to this kind of habitat. Intermittent drainages and
23 seasonally wet swales within the Planning Area, while typically low in plant and
24 wildlife species diversity, provide important watershed sources to vernal pools and
25 are also limited in occurrence and distribution.

26 **Streams**

27 Streams within the Planning Area are classified as ephemeral, intermittent, or
28 perennial depending on their hydrology. Ephemeral streams flow only during and
29 for a short duration after rain events. Intermittent streams flow during wet seasons,
30 but generally are dry during summer months. Perennial streams contain some

1 water during all times of the year with the potential exception of during drought
2 events.

3 A delineation of wetlands and other aquatic resources within the Planning Area has
4 been conducted sporadically, and generally in conjunction with development
5 proposals. The National Wetlands Inventory mapper for the Town of Loomis
6 includes data for several types of wetlands within the Planning Area including
7 freshwater pond, freshwater emergent wetland, and freshwater forested shrub
8 wetland.

9 Many wildlife species depend on wetland habitats for foraging, nesting, water, and
10 cover. Ponds in the Planning Area provide important resting and foraging habitat for
11 migrating birds, such as Canada goose, mallard, and cinnamon teal. Wetlands also
12 provide habitat for ring-necked duck, American coot, great blue heron, great egret,
13 and black phoebe as well as aquatic species such as western pond turtle and fish
14 such as steelhead and salmon. The Dry Creek Conservancy organizes volunteer
15 surveyors to conduct an annual salmon spawner survey in Dry Creek and its major
16 tributaries, including Dry Creek, Secret Ravine, Antelope Creek, and others, after the
17 first major storm event of the season and lasting until fish are no longer observed.
18 Since 2010, annual escapement of CV fall-run Chinook salmon is estimated to range
19 from zero to several hundred adult spawners, largely based on carcass and redd
20 counts. CV steelhead are also observed, but since steelhead do not necessarily die
21 after spawning, few carcasses are observed. Although not quantified, annual
22 steelhead populations are estimated to be far less than Chinook salmon.

23 Please refer to the *Regulatory Framework* section that follows for more information
24 regarding federal and state protections for wetlands and other aquatic resources
25 within the Planning Area.

26 ***Common Natural Communities***

27 Common natural communities are native or apparently native landscapes that have
28 not been substantially altered by farming or other land disturbance. Annual
29 grassland is considered a common community because of its abundance in the
30 Planning Area and throughout California.

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1 **Grasslands**

2 Grassland is an herbaceous community characterized by annual and perennial
3 grasses and forbs. Grasslands occur in pastures, along fence rows, and more
4 extensively in undisturbed rural areas. Three types of grassland associations occur
5 in the Planning Area: annual grassland, native perennial grassland, and pasture
6 grassland. Native perennial grasslands were previously discussed above.

7 *Non-native annual grasslands* are dominated by annual grasses intermixed with
8 annual forbs and perennial forbs, including wild oat, ripgut brome, soft chess,
9 fescue, clover, summer mustard, wild radish, yellow star-thistle, and elegant clarkia.
10 While the dominant plants that make up this association are often exotic species
11 that originated primarily from the Mediterranean area, these plants have been
12 present in California sufficiently long that this can be considered a “naturalized”
13 community.

14 *Pasture grasslands* are typically dominated by perennial sod-forming grasses, such as
15 Harding grass, orchard grass, Kentucky fescue, and common velvet grass. Pasture
16 grasslands are maintained through artificial irrigation systems.

17 Grasslands provide nesting and foraging habitat for several wildlife species,
18 including red-tailed hawk, American pipit, western meadowlark, lesser goldfinch,
19 American kestrel, California ground squirrel, and California vole.

20 **Artificial Plant Communities**

21 Artificial plant communities are human-created landscapes that provide some
22 wildlife habitat value. Urban landscape and agricultural areas are the primary
23 artificial communities located in the Planning Area.

24 **Developed/Urban Landscape**

25 Developed/urban landscape exists around commercial, residential, golf course, and
26 park sites within the Planning Area. This landscape is composed of primarily non-
27 native plants, shrubs and trees. These areas provide habitat for a variety of native
28 and non-native wildlife, including northern mockingbird, European starling, house

1 sparrow, house finch, acorn woodpecker, mourning dove, Brewer’s blackbird,
2 gopher snake, and western toad.

3 **Agricultural Land**

4 Orchards and irrigated crops are the primary types of agricultural within the
5 Planning Area. Agriculture is dispersed throughout the Planning Area, forming a
6 mosaic between grasslands, oak woodland, and riparian habitats.

7 Areas along fence rows and drainage ditches that support some remnant native
8 vegetation or weedy species provide limited habitat for common wildlife species,
9 which include: western meadowlark, red-tailed hawk, American kestrel, and red-
10 winged blackbird. Migrant birds also use agricultural areas for winter foraging and
11 roosting. Typical migrant species that occur on agricultural land in the Planning Area
12 include American pipit, Canada goose, and house finch.

13 **Special-Status Plant and Wildlife Species**

14 Special-status species are plant and wildlife species that have been afforded special
15 recognition by federal, State, or local resource agencies or organizations. They are
16 generally of relatively limited distribution and may require specialized habitat
17 conditions. Special-status species are defined as meeting one or more of the
18 following criteria:

- 19 > Listed or proposed for listing under CESA or FESA;
- 20 > Protected under other regulations (e.g., Migratory Bird Treaty Act);
- 21 > Included on the California Department of Fish and Wildlife (CDFW) Special
22 Animals List;
- 23 > Identified as Rare Plant Rank 1 to 4 by CNPS; or
- 24 > Receive consideration during environmental review under CEQA.

25 Table 3-2 below illustrates the most commonly- recognized definitions of what
26 qualifies as “special-status.”

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Table 3-2: Definition of Special-Status Species	
Plant Species	Animal Species
<ul style="list-style-type: none"> Plants listed or proposed for listing as threatened or endangered under the federal Endangered Species Act; Plants that are candidates for possible future listing as threatened or endangered under the federal Endangered Species Act; Plants that meet the definition of rare or endangered under CEQA (<i>CEQA Guidelines</i>, Section 15380); Plants considered by the CNPS to be “rare, threatened or endangered” in California (Lists 1B and 2); Plants considered by the CNPS about which more information is needed and plants of limited distribution (Lists 3 and 4); Plants listed or proposed for listing by the State as threatened or endangered under the California Endangered Species Act (14 CCR 670.5); Plants listed under the California Native Plant Protection Act (CFG Code 1900 et. seq.); Plants considered sensitive by other federal agencies, state and local agencies or jurisdictions; Plants considered sensitive or unique by the scientific community or occurring at the limits of its natural range (<i>CEQA Guidelines</i>, Appendix G). 	<ul style="list-style-type: none"> Animals listed or proposed for listing as threatened or endangered under the federal Endangered Species Act; Animals that are candidates for possible future listing as threatened or endangered under the federal Endangered Species Act; Animals that meet the definition of rare or endangered under CEQA (<i>CEQA Guidelines</i>, Section 15380); Animals listed or proposed for listing by the State as threatened or endangered under the California Endangered Species Act; Animal species of special concern to the CDFW; Animal species that are fully protected in California.

Source: Association of Environmental Professionals. 2022

1 CDFW utilizes the California Natural Diversity Database (CNDDDB), the USFWS IPaC
 2 database for federally listed species, and the CNPS database of special-status plant
 3 occurrences to document occurrences of special-status species. The CNDDDB includes
 4 information on plant species prepared by the California Native Plant Society (CNPS).
 5 An updated query of the CNDDDB for the Rocklin Quadrangle (U.S. Geological Survey
 6 (USGS) 1981) and the eight surrounding quadrangles was conducted to determine
 7 the location of any known sensitive plants, animals, and communities in the vicinity
 8 of Loomis (CDFW, May 1, 2020). A list of sensitive plants and animal species that could
 9 potentially occur in the Planning Area was also compiled from available literature
 10 including previously prepared environmental documents within the Planning Area.
 11 Table 3-3 through Table 3-5 summarizes the results of this query. Table 3-4 is
 12 subdivided into federal and state-listed species (Table 3-3), species subject to CEQA
 13 review (Table 3-4), and other species of interest (Table 3-5).
 14

Table 3-3: Federal and State-listed Species Potentially Occurring in the Town of Loomis		
Special-Status Species	Regulatory Status	Habitat Requirements
Invertebrates		
Valley elderberry longhorn beetle <i>Desmocerus californicus dimorphus</i>	FT; --; --	Sole hosts are elderberry (<i>Sambucus</i> sp.) shrubs typically associated with riparian areas. This species is known from portions of the Central Valley of California and several elderberry shrubs are known to occur along Secret Ravine within the Planning Area. This species has an elevational range limit of 500 feet above MSL (USFWS).
Vernal pool fairy shrimp <i>Branchinecta lynchi</i>	FT; --; --	Typically found in vernal pools, but can also be found in other natural ephemeral habitats (alkali pools, seasonal drainages, stock ponds, vernal swales and rock outcrops), and artificial ephemeral habitats (railroad toe-drains, roadside ditches, abandoned agricultural drains, deep tire ruts, and firebreak depressions).

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Table 3-3: Federal and State-listed Species Potentially Occurring in the Town of Loomis		
Special-Status Species	Regulatory Status	Habitat Requirements
Vernal pool tadpole shrimp <i>Lepidurus packardii</i>	FE; --; --; --	Inhabits vernal pools, swales, and ephemeral freshwater habitat. Known from Alameda, Butte, Colusa, Contra Costa, Fresno, Glenn, Kings, Merced, Placer, Fresno, San Joaquin, Shasta, Solano, Stanislaus, Sutter, Tehama, Tulare, Yolo, and Yuba counties.
Fish		
Central Valley steelhead DPS <i>Oncorhynchus mykiss irideus</i>	FT; --; --; --	Found in cool, clear, fast-flowing streams and rivers with riffles and ample cover from riparian vegetation or overhanging banks. Spawning occurs in streams with pool and riffle complexes. The species requires cold water and gravelly streambed to successfully breed. Spawn in the Sacramento and American rivers and tributaries before migrating to the Delta and Bay Area. Critical habitat for this species is designated throughout the Dry Creek watershed.
Amphibians/ Reptiles		
California red-legged frog <i>Rana draytonii</i>	FT; CSC; --	Breeding sites are in aquatic habitats including pools and backwaters within streams and creeks, ponds, marshes, springs, sag ponds, dune ponds and lagoons from 0 to 1,500 meters. Additionally, frequently breed in artificial impoundments such as stock ponds. Typically found in or within 300 feet of aquatic habitat, but may disperse up to two miles between suitable aquatic habitat. This species is unlikely to occur in Loomis based on the current known range of the species.

Table 3-3: Federal and State-listed Species Potentially Occurring in the Town of Loomis		
Special-Status Species	Regulatory Status	Habitat Requirements
Foothill yellow-legged frog <i>Rana boylei</i>	--; CE; CSC	Found in streams and rivers with rocky substrate and open, sunny banks in forests, chaparral and woodlands. Sometimes found in isolated pools, vegetated backwaters and deep shaded spring fed pools. Occurs from 0 to 1,830 meters. Rarely encountered far from permanent water sources. Inactive periods (e.g. overwintering during cold weather) will seek refuge under rocks in streams or along the shore within a few meters from water.
Birds		
Bald eagle <i>Haliaeetus leucocephalus</i>	FD; CE; --	Breeding habitat most commonly includes areas within 2.5 miles (4.0 kilometers) of coastal areas, bays, rivers, lakes, and reservoirs. Nests usually are in tall trees or on pinnacles or cliffs near water.
California black rail <i>Laterallus jamaicensis coturniculus</i>	--; CT; CFP	Inhabits saltwater, brackish, and freshwater marshes. Nesting occurs on the ground within dense vegetation in high spots of salt marshes (i.e. pickleweed), in shallow areas of freshwater marshes, in wet meadows and in flooded grassy vegetation.
Swainson's hawk <i>Buteo swainsoni</i>	--; CT; --; --	Nest peripherally to Valley riparian systems lone trees or groves of trees in agricultural fields. Most commonly used nest trees in the Central Valley, include valley oak, Fremont cottonwood, walnut, and large willows, and occasionally eucalyptus, pine and redwood trees. Forages in row, hay and grain agricultural crops, especially post-harvest when the height of the vegetation is short and easy to observe prey.

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Special-Status Species	Regulatory Status	Habitat Requirements
Tricolored blackbird <i>Agelaius tricolor</i>	--; CT; CSC; --	Breeding habitat is freshwater marshes that include cattails, tules, bulrushes and sedges. Nests are made in the dense vegetation of the marsh or thickets, and sometimes on the ground. In migration and winter, will inhabit open cultivated lands and pastures as well as marshes.

Source: California Department of Fish and Wildlife. 2020; Loomis Union Elementary School District, 1994; Town of Loomis 1988; Town of Loomis, 1997; Town of Loomis, 2019.

Notes:

KEY:

Status Codes:

-- = not applicable

FD = Federally Delisted

FE = Federally Endangered

FT = Federally Threatened

CE = California Endangered

CT = California Threatened

CSC = California Species of Special Concern

DPS = Distinct Population Segments

MSL = mean sea level

USFWS = U.S. Fish and Wildlife Service

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2

1

Table 3-4: Species Subject to CEQA Review		
Special-Status Species	Regulatory Status	Habitat Requirements
Plants		
Big-scale balsamroot <i>Balsamorhiza macrolepis</i> var. <i>macrolepis</i>	--; --; 1B	Perennial herb sometimes found on serpentinite soil in chaparral, cismontane woodland, and valley and foothill grassland from 90 to 1,555 meters in elevation.
Legenere <i>Legenere limosa</i>	--; --; 1B	Annual herb found in vernal pools from 1 to 880 meters in elevation.
Red Bluff dwarf rush <i>Juncus leiospermus</i> var. <i>leiospermus</i>	--; --; --; 1B	Annual herb found in vernal mesic chaparral, cismontane woodland, meadows and seeps, valley and foothill grassland, and vernal pools from 35 to 1,250 meters in elevation.
Ahart's dwarf rush <i>Juncus leiospermus</i> var. <i>ahartii</i>	--; --; --; 1B	Annual herb found in mesic areas in valley and foothill grassland from 30 to 229 meters in elevation.
Dwarf downingia <i>Downingia pusilla</i>	--; --; --; 2B	An annual herb found in mesic areas within valley and foothill grassland and vernal pool habitats from 1 to 445 meters in elevation.
Red Hills soaproot <i>Chlorogalum grandiflorum</i>	--; --; 1B	Perennial bulbiferous herb sometimes found on serpentinite and gabbroic soil in chaparral, cismontane woodland, lower coniferous forests from 245 to 1,690 meters in elevation.
Sanford's arrowhead <i>Sagittaria sanfordii</i>	--; --; --; 1B	Perennial rhizomatous herb found in marshes and swamps in assorted shallow freshwater areas from 0 to 650 meters.
Brazilian watermeal <i>Wolffia brasiliensis</i>	--; --; 2B	An aquatic perennial herb found in assorted shallow and freshwater marshes and swamps from 20 to 100 meters in elevation.
Invertebrates		
California linderiella <i>Linderiella occidentalis</i>	--; CSA; --; --	Found in a variety of natural, and artificial seasonally ponded freshwater habitats, including vernal pools, swales, ephemeral drainages, stock ponds, reservoirs, ditches, backhoe pits, and ruts caused by vehicular activity.

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Table 3-4: Species Subject to CEQA Review		
Special-Status Species	Regulatory Status	Habitat Requirements
Fish		
Central Valley fall/late fall run Chinook salmon ESU and Essential Fish Habitat <i>Oncorhynchus tshawytsca</i>	CSC	Fall-run Chinook salmon spawn from October through December and late fall run spawn from January through mid-April in habitats similar those described for steelhead.
Reptiles and Amphibians		
Western pond turtle <i>Emys marmorata</i>	--; CSC; --	Typically associated with permanent ponds, lakes, streams, irrigation ditches and canals, and marshes, or pools in intermittent drainages, usually lined with abundant vegetation and either rocky or muddy bottom substrates. Requires aquatic basking sites, such as logs, rocks, cattail mats or exposed banks. Turtles are active from February to November, in which breeding occurs from April to May. Overwintering occurs in upland terrestrial habitats (approximately 300 feet) close to water sources, in which they will bury themselves under loose soil.
Western spadefoot <i>Spea hammondi</i>	--; CSC; --; --	Found in a variety of upland habitats, including lowlands, foothills, grasslands, open chaparral, and pine-oak woodlands. Habitat preferences include shortgrass plains, and sandy or gravelly soils for burrowing (e.g. alkali flats, washes, alluvial fans). Fossorial species that hibernates/aestivates for most of the year underground. Breeds temporary rain pools, and slow-moving streams (e.g. areas flooded by intermittent streams), and other artificial bodies of water as long as surrounding habitat is not developed or irrigated for agricultural purposes.

Table 3-4: Species Subject to CEQA Review		
Special-Status Species	Regulatory Status	Habitat Requirements
Birds		
American peregrine falcon <i>Falco peregrinus</i>	FD; CFP; --	Found in areas containing cliffs and almost always nest near water. Use open habitats for foraging. Non-breeding peregrine falcons may also occur in open areas without cliffs. Many artificial habitats like towers, bridges and buildings are also used.
Burrowing owl <i>Athene cunicularia</i>	--; CSC; --	Nests in burrows in the ground, often in old ground squirrel burrows or badger, within open dry grassland and desert habitat. The burrows are found in dry, level, open terrain, including prairie, plains, desert, and grassland with low height vegetation for foraging and available perches, such as fences, utility poles, posts, or raised rodent mounds.
Cooper's hawk <i>Accipiter cooperii</i>	--; WL--	Nests in riparian woodlands and occasionally in developed areas. Forages in open woodland areas.
Ferruginous hawk <i>Buteo regalis</i> (wintering)	--; WL--	Winters in California in grasslands and open habitats along the coast and Central Valley.
Golden eagle <i>Aquila chrysaetos</i>	--; --; CFP; --	Occurs in open and semi-open habitats. Typically found in areas with cliffs, ridges, or canyonlands. Most often nests on cliffs and may also nest in trees, on the ground, or tall man-made structures such as transmission towers or windmills. This species avoids developed areas and fragmented urbanized environments.
Grasshopper sparrow <i>Ammodramus savannarum</i>	--; CSC; --; --	Frequents dense, dry, or well drained grassland, especially native grassland. Nests at base of overhanging clump of grass. This species is known from Los Angeles, Mendocino, Orange, Placer, Sacramento, San Diego, San Luis Obispo, Solano, and Yuba counties, in California.

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Table 3-4: Species Subject to CEQA Review		
Special-Status Species	Regulatory Status	Habitat Requirements
Great blue heron <i>Ardea herodias</i>	--; CSA; -- (Nesting colony)	Variety of habitats close to bodies of water including fresh and saltwater marshes, wet meadows, lake edges and shorelines. Colonial nester in tall trees, cliff sides and sequestered spots on marshes.
Great egret <i>Ardea alba</i>	--; CSA; --; -- (Nesting colony)	Found in marshes, swampy woods, tidal estuaries, lagoons, mangroves, streams, lakes, ponds, fields and meadows. Nests primarily in tall trees, or in woods or thickets near water.
Loggerhead shrike <i>Lanius ludovicianus</i>	--; CSC; --	Forages in open areas such as grasslands, oak savannah, and deserts. Nests in dense thickets of shrubs or trees.
Merlin <i>Falco columbarius</i>	--; WL; --	Winter migrant in California. Found in a variety of habitats during winter. Requires dense vegetation for cover.
Northern harrier <i>Circus hudsonius</i>	--; CSC; --; --	Found in coastal scrub, Great Basin grassland, marsh and swamp, riparian scrub, valley and foothill grassland, wetland. Nests and forages in grasslands, from salt grass in desert sink to mountain cienagas. Nests on ground in shrubby vegetation usually at marsh edge; nests built of a large mound of sticks in wet areas.
Prairie falcon <i>Falco mexicanus</i>	--; WL; --	Found in open grasslands, savannahs, and coastal areas. Usually nests on cliffs or sheltered ledges.
Purple martin <i>Progne subis</i>	--; CSC; --; --	Nests in wide variety of open and partly open habitats that are often near water or around towns. Nests in tree cavities, abandoned woodpecker holes, crevices in rocks, and sometimes in bird houses or gourds put up by humans.
Sharp-shinned hawk <i>Accipiter striatus</i>	--; WL; --	Winter resident in the Central Valley of California. Forages in woodland edges and pastures with brush cover.

Table 3-4: Species Subject to CEQA Review		
Special-Status Species	Regulatory Status	Habitat Requirements
Short-eared owl <i>Asio flammeus</i>	--; CSC; --	Typically a winter migrant in the Central Valley of California. Limited nesting occurs along the North Coast and east side of Sierras and Modoc Plateau.
Song sparrow (Modesto population) <i>Melospiza melodia</i>	--; CSC; --; --	Found in a wide range of habitats including forest, shrub, and riparian habitat. Early in the season will nest on the ground on clumps of dead grasses and weeds, and later in the season will nest in thorny bushes, willows, cattails, cordgrass, and small conifers (0.5-10 meters high).
Yellow-breasted chat <i>Icteria virens</i>	--; CSC; --; --	Found in dense shrubby areas, often containing blackberry bushes, along rivers. Breeding habitat is second growth areas, shrubby old pastures, thickets, bushy areas, scrub, woodland undergrowth, and fence rows near low wet places near streams, pond edges, or swamps. Will also breed in thickets with few tall trees that are commonly close to human habitation. Nests in bushes, brier tangles, vines, and low trees generally within dense vegetation that is less than 2 meters above the ground.
Yellow warbler <i>Setophaga petechia</i>	--; CSC; --; --	Nests in thickets and other disturbed or re-growing habitats, particularly along streams and wetlands in elevations up to 9,000 feet. Overwintering can occur in mangrove forests, dry scrub, marshes, and forests, typically in lowlands but occasionally up to 8,500 feet.
White-tailed kite <i>Elanus leucurus</i>	--; CFP; -- (nesting)	Inhabit savanna, open woodlands, marshes, desert grassland, partially cleared lands and cultivated fields. Nests in trees, often near a marsh in savanna, open woodland, partially cleared lands, and cultivated fields. Foraging occurs within ungrazed or lightly-grazed fields and pastures.

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Table 3-4: Species Subject to CEQA Review		
Special-Status Species	Regulatory Status	Habitat Requirements
Mammals		
American badger <i>Taxidea taxus</i>	--; CSC; --; --	Found in a variety of grassland, shrublands, and open woodlands throughout California. Suitable burrowing habitat requires friable soil.
Pallid bat <i>Antrozous pallidus</i>	--; CSC; --; --	Found in grasslands, shrublands, woodlands, and forests from sea level up through mixed conifer forest habitats. Roosts in colonies usually in rock crevices, caves, mines, hollow trees, and buildings.
Townsend's big-eared bat <i>Corynorhinus townsendii</i>	--; CSC; --	Found in subalpine and alpine habitats. Requires caves, mines, tunnels, buildings, or other human-made structures for roosting. Hibernation sites are cold, but not below freezing temperatures. Maternity sites are warm and similar to roosting sites.

Source: California Department of Fish and Wildlife. 2020; Loomis Union Elementary School District, 1994; Town of Loomis 1988; Town of Loomis, 1997; Town of Loomis, 2019.

Notes:

Table 3-4 includes state species of concern, watch list species, and Rank 1 and 2 CNPS species.

KEY:

Status Codes:

-- = not applicable

FD = Federally Delisted

CSA = California Special Animal

CFP = California Fully Protected

CSC = California Species of Special Concern

WL = Watch List

CNPS Threat Ranks

-- = not applicable

1B = Plants Rare, Threatened, or Endangered in California and elsewhere

2B = Plants presumed extirpated in California but common elsewhere

CEQA = California Environmental Quality Act

CNPS = California Native Plant Society

ESU = evolutionarily significant units

1

2

Table 3-5: Other Species of Interest

Special-Status Species	Regulatory Status	Habitat Requirements
Plants		
Brandegees clarkia <i>Clarkia biloba</i> ssp. <i>brandegeae</i>	--; --; 4.2	Annual herb often found in roadcuts in the chaparral, cismontane woodland, lower montane coniferous forest from 75 to 915 meters in elevation.
Butte County fritillary <i>Fritillaria eastwoodiae</i>	--; --; 3	A perennial bulbiferous herb found sometimes in serpentinite soils within chaparral, cismontane woodland, and openings of lower montane coniferous forests from 50 to 1,500 meters in elevation.
Dubious pea <i>Lathyrus sulphureus</i> var. <i>argillaceus</i>	--; --; 3	A perennial herb found within cismontane woodland, and upper and lower montane coniferous forests from 150 to 930 meters in elevation.
Humboldt lily <i>Lilium humboldtii</i> ssp. <i>humboldtii</i>	--; --; 4.2	Perennial bulbiferous herb found in openings in chaparral, cismontane woodland, lower montane coniferous forest from 90 to 1,280 meters in elevation.
Valley brodiaea <i>Brodiaea rosea</i> ssp. <i>vallicola</i>	--; --; --; 4.2	Perennial bulbiferous herb found on silty, sandy, and gravelly loam on old alluvial terraces within swales in valley and foothill grassland and vernal pools from 10 to 335 meters.
Invertebrates		
Western bumble bee <i>Bombus occidentalis</i>	--; CCE; --	Found in open grassy areas, urban parks and gardens, chaparral and shrub areas, and mountain meadow. Nest underground in abandoned rodent burrows or other cavities. Associated food plants include <i>Ceanothus</i> , <i>Centaurea</i> , <i>Chrysothamnus</i> , <i>Geranium</i> , <i>Grindellia</i> , <i>Lupinus</i> , <i>Melilotus</i> , <i>Monardella</i> , <i>Rubus</i> , <i>Solidago</i> , and <i>Trifolium</i> .

Source: California Department of Fish and Wildlife, 2020; Loomis Union Elementary School District, 1994; Town of Loomis 1988; Town of Loomis, 1997; Town of Loomis, 2019.

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Table 3-5 includes Rank 3 and 4 CNPS species and non-listed invertebrates, which may not be subject to CEQA review.

KEY:

Status Codes:

-- = not applicable

CCE: California Candidate Endangered

CNPS Threat Ranks

3 Plants about which we need more information – A Review List

4.2 Plants of limited distribution – A Watch List (moderately threatened in California)

CEQA = California Environmental Quality Act

CNPS = California Native Plant Society

1

2 ***Special-Status Plants***

3 Thirteen special-status plants have the potential to occur within the Town of Loomis.
4 No federal or state-listed plant species are expected to occur within the Town limits.
5 Several of these plants are associated with vernal pools that occur within old
6 volcanic mud flows, which are generally located southwest of the Planning Area.
7 However, they could also occur within vernal pools in the Planning Area. General
8 habitat requirements for potentially occurring special-status plant species are
9 included in Table 3-3 through Table 3-5. Focused plant surveys are recommended in
10 areas that have the potential to support special-status plants within the Town limits.

11 ***Special-Status Wildlife***

12 Based on known habitat requirements and distributions, the 36 special-status
13 species listed in Table 3-3 through Table 3-5 have the potential to occur in the
14 Planning Area. General habitat requirements for potentially occurring special-status
15 wildlife species are included in Table 3-3 through Table 3-5. Many site-specific
16 wildlife surveys have been conducted in the Planning Area and Table 3-6 lists the
17 wildlife observed during previous surveys conducted within the Planning Area. This
18 list does not include all wildlife species that would be expected to occur within the
19 Planning Area, only those species documented in wildlife surveys as part of
20 proposed projects. Special-status wildlife species previously observed have been
21 marked with an asterisk.

Table 3-6: Wildlife Species Observed in the Planning Area		
Common Name	Scientific Name	Source
Invertebrates		
Valley elderberry longhorn beetle	<i>Desmocerus californicus dimorphus</i>	8
Birds		
Cooper's hawk *	<i>Accipiter cooperii</i>	4
Red-winged blackbird	<i>Agelaius phoeniceus</i>	2
Mallard	<i>Anas platyrhynchos</i>	4
California scrub jay	<i>Aphelocoma californica</i>	1, 2, 4
Red-tailed hawk	<i>Buteo jamaicensis</i>	1
Red-shouldered hawk	<i>Buteo lineatus</i>	1
Swainson's hawk *	<i>Buteo swainsoni</i>	6
California quail	<i>Callipepla californica</i>	1, 4
American goldfinch	<i>Spinus tristis</i>	4
Purple finch	<i>Carpodacus purpureus</i>	4
Turkey vulture	<i>Cathartes aura</i>	4
Wrentit	<i>Chamaea fasciata</i>	1
Killdeer	<i>Charadrius vociferus</i>	1
Northern flicker	<i>Colaptes auratus</i>	1, 2
Western wood-pewee	<i>Contopus sordidulus</i>	1
American crow	<i>Corvus brachyrhynchos</i>	1
Raven	<i>Corvus corax</i>	2
Warbler sp.	<i>Dendroica sp.</i>	4
White-tailed kite *	<i>Elanus leucurus</i>	1, 2, 4
Brewer's blackbird	<i>Euphagus cyanacephalus</i>	1
Acorn woodpecker	<i>Melanerpes formicivorus</i>	2, 4

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Table 3-6: Wildlife Species Observed in the Planning Area		
Common Name	Scientific Name	Source
Northern mockingbird	<i>Mimus polyglottos</i>	4
Ash-throated flycatcher	<i>Myiarchus cinerascens</i>	4
Oak titmouse	<i>Baeolophus inornatus</i>	2, 4
Savannah sparrow	<i>Passerculus sandwichensis</i>	4
Ring-necked pheasant	<i>Phasianus colchicus</i>	4
Grosbeak	<i>Pheucticus</i> sp.	4
Nuttall's woodpecker	<i>Picoides nuttallii</i>	1, 4
Bushtit	<i>Psaltriparus minimus</i>	1
Black phoebe	<i>Sayornis nigricans</i>	1, 4
Western bluebird	<i>Sialia mexicana</i>	4
White-breasted nuthatch	<i>Sitta carolinensis</i>	4
Western meadowlark	<i>Sturnella neglecta</i>	1
European starling	<i>Sturnus vulgaris</i>	1
Barn owl	<i>Tyto alba</i>	1
Solitary vireo	<i>Vireo solitarius</i>	4
Canada goose	<i>Branta canadensis</i>	Known occurrences
Wild turkey	<i>Meleagris gallopavo</i>	Known occurrences
Mourning dove	<i>Zenaida macroura</i>	1, 2, 4
Golden-crowned sparrow	<i>Zonotrichia atricapilla</i>	2
White-crowned sparrow	<i>Zonotrichia leucophrys</i>	2
Mammals		
Coyote	<i>Canis latrans</i>	1
Black-tailed jackrabbit	<i>Lepus californicus</i>	1

Table 3-6: Wildlife Species Observed in the Planning Area		
Common Name	Scientific Name	Source
Black-tailed deer	<i>Odocoileus hemionous</i>	1
Raccoon	<i>Procyon lotor</i>	2
Botta's pocket gopher	<i>Thomomys bottae</i>	1, 2
Skunk	<i>Mephitus mephitus</i>	5
Reptiles and Amphibians		
Western pond turtle *	<i>Emys marmorata</i>	4
Western skink	<i>Plestiodon skiltonianus</i>	2
Western fence lizard	<i>Sceloporus occidentalis</i>	2, 4
Alligator lizard	<i>Elgaria sp.</i>	4
Pacific chorus frog	<i>Pseudacris (Hyla) regilla</i>	2, 4
Bullfrog	<i>Rana catesbeiana</i>	4
Common garter snake	<i>Thamnophis sirtalis</i>	4
Side-blotched lizard	<i>Uta stansburiana</i>	4
Fish		
Central Valley steelhead	<i>Oncorhynchus mykiss</i>	7
Central Valley fall/late fall run Chinook salmon	<i>O. tshawytscha</i>	7
Sacramento sucker	<i>Catostomus occidentalis</i>	3
Brown bullhead	<i>Ictalurus nebulosus</i>	3
Green sunfish	<i>Lepomis cyanellus</i>	3
Bluegill	<i>Lepomis macrochirus</i>	3
Largemouth bass	<i>Micropterus salmoides</i>	3
Sacramento squawfish	<i>Ptychocheilus grandis</i>	3

1

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Source: Environmental Assessment Reports within the Town of Loomis (see Key below)

Key:

* = Special-status species

1 *Shadowbrook Recirculated Draft EIR*, ESA, 1997

2 *K-8 Elementary School Site Draft EIR*, Quad, 1994

3 Jones & Stokes Secret Ravine survey, March 1988

4 Laird Road survey, Jones & Stokes, 1993.

5 Town staff, 1998.

6 *Town of Loomis Costco, Recirculated Draft EIR*, AECOM, 2019.

7 CDFW. 2020. *California Natural Diversity Database Records*.

8 *Turtle Island Draft EIR. Town of Loomis. 1996.*

1 **Aquatic Habitat**

2 Streams in the Planning Area provide important habitat for several species. Portions
3 of Dry Creek, Secret Ravine and Antelope Creek provide the highest quality habitat
4 because these waterways have moderate perennial flows, clear water, rocky stream
5 beds, and overhanging riparian vegetation.

6 Climate and hydrology interact to create conditions conducive to supporting two
7 distinct fish communities: a cold-water community of anadromous fall/late fall-run
8 Chinook salmon and steelhead during the late fall, winter and spring, and warm
9 water resident fishes year-round. The local climatic pattern is Mediterranean in
10 which almost all precipitation occurs during the fall through spring and virtually
11 none during the summer. Since the first annual rain normally occurs in the fall and
12 winter, the high stream flows are cold and attract adult. Chinook salmon and
13 steelhead to migrate upstream to spawn. These fish may be either adults returning
14 to their natal spawning streams or fish that have strayed (non-natal) from their
15 native spawning streams. Stream-dwelling juveniles may also move into the system
16 to rear (non-natal stream rearing). In either case, non-natal stream rearing may
17 account for many fish that rear in the local drainages (Maslin and McKenney 1994,
18 Maslin *et al.* 1997).

19 The cold-water condition in the local streams is not prolonged during the spring
20 because headwaters of the local streams are too low in elevation to collect
21 snowpack. As streamflow declines from spring and throughout the summer, the
22 streams warm. At temperatures approaching 15 to 17°C, juvenile steelhead begin to
23 outmigrate as smolts (physiological process by which juvenile steelhead are able to

1 live in salt water). Juvenile Chinook salmon outmigrate at somewhat lower
2 temperatures. Although salmonids are able to rear in water temperatures up to
3 20°C (or higher in streams with abundant cover and food resources), and those
4 species with wide temperature tolerances (i.e., warm water species) remain.

5 Secret Ravine is a perennial stream used by fall-run chinook salmon (*Oncorhynchus*
6 *tshawytcha*) and steelhead trout (*Oncorhynchus mykiss*) for spawning and rearing of
7 juveniles (Town of Loomis, *Turtle Island Draft EIR*, 1996). Fall-run chinook salmon is a
8 state species of special concern, and steelhead is a federal threatened species.
9 CDFW has documented chinook salmon spawning in Secret Ravine from its
10 confluence with Dry Creek upstream to Penryn (Gerstung 1965). Of the streams that
11 are tributary to Natomas East Drain and the Natomas Cross Canal, Secret Ravine has
12 supported the greatest number of spawning salmon. Approximately 60 percent of
13 the 1,000 fish run in this drainage in 1964 spawned in Secret Ravine (Gerstung
14 1965). Fall-run chinook salmon typically spawn from November to January, and most
15 juvenile salmon migrate downstream the following spring to the Sacramento River
16 and through the Sacramento-San Joaquin Delta to the Pacific Ocean. Steelhead trout
17 typically spawn January through March. In contrast to chinook salmon, however,
18 juvenile steelhead may reside in freshwater in California as long as two years before
19 migrating to the Pacific Ocean. In addition to these cold water anadromous
20 salmonids, Secret Ravine also supports resident warm water freshwater species that
21 include largemouth bass (*Micropterus salmoides*), green sunfish (*Lepomis cyannellus*),
22 bluegill (*Lepomis macrochirus*), golden shiner (*Notemigonus crysoleucas*), hitch (*Lavinia*
23 *exilicauda*), Sacramento sucker (*Catostomus occidentalis*), Sacramento pike-minnow
24 (*Ptychocheilus grandis*) and may also include California roach (*Hesperoleucus*
25 *symmetricus*) and Sacramento splittail (*Pogonichthys macrolepidotus*).

26 Antelope Creek is a perennial stream that has supported fall-run chinook salmon in
27 the past (Gerstung 1965). It may provide non-natal rearing habitat for both fall-run
28 chinook salmon and steelhead trout. Non-natal rearing occurs when juvenile
29 salmonids born elsewhere migrate into the system to rear. California roach and
30 Sacramento splittail may also occur here. Antelope Creek does provide habitat for
31 several game species such as largemouth bass, bluegill, green sunfish, brown
32 bullhead (*Ictalurus nebulosus*), Sacramento sucker, golden shiner and mosquitofish
33 (*Gambusia affinis*). In addition, both Secret Ravine and Antelope Creek provide
34 habitat for bullfrog (*Rana catesbeiana*), Pacific tree-frog (*Pseudacris regilla*), western

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1 pond turtle (*Emys marmorata*), as well as potential habitat for federal threatened
2 foothill yellow-legged frog (*Rana boylei*) and the federal endangered California red-
3 legged frog (*Rana aurora draytonii*).

4 There are several unnamed tributaries within the Town. The intermittent nature of
5 these streams does not preclude fish species if the water occurs at the appropriate
6 time and remains for a sufficient duration (Erman and Hawthorne 1976).

7 **Critical Habitat**

8 The Central Valley steelhead distinct population segment (DPS) was listed as
9 threatened under the ESA on January 5, 2008, last updated on April 14, 2014. Critical
10 Habitat for Central Valley steelhead was designated by the National Marine Fisheries
11 Service on September 2, 2005 (70 FR 52488). This distinct population segment
12 includes all naturally-spawned anadromous steelhead populations below natural
13 and manmade impassable barriers in the Sacramento and San Joaquin Rivers and
14 their tributaries. Steelhead are anadromous fish that spawn in rivers and streams
15 with cool, clear, water and suitable gravel substrate. Hatchlings migrate downstream
16 to the sea to mature before returning inland to spawn. The Planning Area is located
17 within designated critical habitat for the Central Valley steelhead DPS.

18 A recovery plan for the ESUs of Sacramento River winter-run Chinook salmon,
19 Central Valley spring-run Chinook salmon and the DPS of Central Valley steelhead
20 was prepared by NMFS in July 2014 (NMFS 2014). The draft plan describes key
21 threats and identifies recovery strategies and actions to achieve goals and
22 objectives. While habitat conditions for CV steelhead have slightly improved over the
23 past decade, access to historic habitat generally remains blocked and the quality of
24 the species remaining habitat remains largely degraded (Lindley et al. 2009).

1 **Regulatory Framework**

2 ***Special-Status Plant and Wildlife Species***

3 The federal Endangered Species Act of 1973 (50 CFR 17) provides legal protection and
 4 requires definition of critical habitat and development of recovery plans for plant and
 5 animal species in danger of extinction. California has a parallel mandate embodied in
 6 the California Endangered Species Act of 1984 and the California Native Plant
 7 Protection Act of 1977. These laws regulate the listing of plant and animal species as
 8 endangered, threatened, or in the case of plants, rare.

9 The federal Endangered Species Act requires federal agencies to make a finding on all
 10 federal actions, including the approval by an agency of a public or private action, as to
 11 the potential to jeopardize the continued existence of any federally listed species
 12 potentially impacted by the action. Section 9 of the federal Endangered Species Act
 13 prohibits the “take” of any member of an endangered species. “Take” is defined by the
 14 act as, “...to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or
 15 to attempt to engage in any such conduct.” The USFWS has further defined the terms
 16 “harass” and “harm.” Harass is defined as

17 “...an intentional or negligent act or omission that creates the likelihood of
 18 injury to a listed species by annoying it to such an extent as to significantly
 19 disrupt normal behavior patterns which include, but are not limited to,
 20 breeding, feeding, or sheltering.” Harm is further defined to include
 21 “...significant habitat modification or degradation that results in death or injury
 22 to listed species by significantly impairing behavioral patterns such as
 23 breeding, feeding, or sheltering.”

24 Section 10(a) of the federal Endangered Species Act permits the incidental “take” of an
 25 endangered species if the take is “incidental to, and not the purpose of, the carrying
 26 out of an otherwise lawful activity.”

27 The federal Migratory Bird Treaty Act (MBTA) prohibits the killing, possessing, or
 28 trading of migratory birds except in accordance with regulations prescribed by the
 29 Secretary of Interior. The Bald and Golden Eagle Protection Act (Eagle Act) prohibits
 30 the taking or possession of and commerce in bald and golden eagles with limited

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1 exceptions. Under the Eagle Act, it is a violation to “take, possess, sell, purchase,
2 barter, offer to sell, transport, export or import, at any time or in any manner, any
3 bald eagle commonly known as the American eagle, or golden eagle, alive or dead,
4 or any part, nest, or egg, thereof.” Take is defined to include pursue, shoot, shoot at,
5 poison, wound, kill, capture, trap, collect, destroy, molest, and disturb. Disturb is
6 further defined in 50 CFR Part 22.3 as “to agitate or bother a bald or golden eagle to
7 a degree that causes, or is likely to cause, based on the best scientific information
8 available (1) injury to an eagle, (2) a decrease in its productivity, by substantially
9 interfering with normal breeding, feeding, or sheltering behavior, or (3) nest
10 abandonment, by substantially interfering with normal breeding, feeding, or
11 sheltering behavior.”

12 The Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-
13 Stevens Act) establishes a management system for marine and estuarine fishery
14 resources. The Act applies to Pacific salmon, groundfish, and several pelagic species
15 found in the Pacific Ocean and San Francisco Bay and Delta and pertains to Federal
16 Agencies that carry out projects with the potential to affect Essential Fish Habitat
17 (EFH). Essential fish habitat is defined as those waters and substrate necessary for
18 fish spawning, breeding, feeding, or growth to maturity. For the purposes of
19 interpreting the definition of EFH, “waters” include aquatic areas and their
20 associated physical, chemical, and biological properties that are used by fish, and
21 may include areas historically used by fish where appropriate; “substrate” includes
22 sediment, hard bottom, structures underlying the waters, and associated biological
23 communities; “necessary” means habitat required to support a sustainable fishery
24 and a healthy ecosystem; and “spawning, breeding, feeding, or growth to maturity”
25 covers a species’ full life cycle. Habitat for Central Valley fall/late fall-run Chinook
26 salmon (MSA managed species) are at least occasionally present in the vicinity of the
27 Project area and are federally managed by the Pacific States Marine Fisheries
28 Council (PSMFC) under the Pacific Salmon Fisheries Management Plan (FMP).

29 The State of California enacted the California Endangered Species Act (CESA) in
30 1984. CESA is similar to the FESA but pertains to State-listed endangered and
31 threatened species. CESA requires state agencies to consult with the California
32 Department of Fish and Wildlife (CDFW), when preparing CEQA documents. The
33 purpose is to ensure that the State lead agency actions do not jeopardize the
34 continued existence of a listed species or result in the destruction, or adverse

1 modification of habitat essential to the continued existence of those species, if there
2 are reasonable and prudent alternatives available (Fish and Game Code §2080).
3 CESA directs agencies to consult with CDFW on projects or actions that could affect
4 listed species. It also directs CDFW to determine whether jeopardy would occur and
5 allows CDFW to identify “reasonable and prudent alternatives” to the project
6 consistent with conserving the species. CESA allows CDFW to authorize exceptions
7 to the State’s prohibition against take of a listed species if the “take” of a listed
8 species is incidental to carrying out an otherwise lawful project that has been
9 approved under CEQA (Fish & Game Code § 2081). Species listed by the State are not
10 necessarily protected by the federal protection statutes. Under the State laws, the
11 CDFW is empowered to review projects for their potential impacts to listed species and
12 their habitats.

13 In addition to formal endangered and threatened listings, the State of California also
14 lists *Species of Special Concern* based on limited distribution, declining populations,
15 diminishing habitat, or unusual scientific, recreational, or educational value. These
16 species are not afforded the same legal protection as listed species, but may be added
17 to official lists in the future.

18 Federal Candidate species include taxa for which the USFWS currently has compiled
19 substantial information on biological vulnerability and potential threats in order to
20 support the appropriateness of proposing to list the taxa as endangered or threatened
21 species. The State of California also maintains lists for Candidate-Endangered Species
22 and Candidate-Threatened Species.

23 A number of species have been designated as “fully protected” species under
24 Sections 5515, 5050, 3511, and 4700 of the Fish and Game Code, but are not listed
25 as endangered (Section 2062) or threatened (Section 2067) species under CESA.
26 Except for take related to scientific research, all take of fully protected species is
27 prohibited. The California Fish and Game Code defines take as “*hunt, pursue, catch,*
28 *capture, or kill, or attempt to hunt, pursue, catch, capture, or kill.*” Additionally, Sections
29 3503, 3503.5, and 3513 of the California Fish and Game Code prohibits the killing of
30 birds or the destruction of bird nests.

31 The Native Plant Protection Act (NPPA), enacted in 1977, allows the Fish and Game
32 Commission to designate plants as rare or endangered. The NPPA prohibits take of

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1 endangered or rare native plants, with some exceptions for agricultural and nursery
2 operations and emergencies. Vegetation removal from canals, roads, and other
3 sites, changes in land use, and certain other situations require proper advance
4 notification to CDFW.

5 ***Aquatic Resource Regulatory Framework***

6 Development in the Planning Area is subject to various local, state, and federal
7 regulations and permits regarding the use of aquatic resources. The Placer County
8 Flood Control and Water Conservation District, California Department of Water
9 Resources, and Central Valley Regional Water Quality Control Board are the primary
10 agencies responsible for the protection of watersheds, floodplains, and water
11 quality. The Placer County Department of Health and Medical Services is the primary
12 agency responsible for establishing design standards and permitting septic tanks
13 and wells. The federal government administers the National Pollutant Discharge
14 Elimination System (NPDES) permit program, which regulates discharges into
15 surface waters. Section 404 of the Clean Water Act prohibits the discharge of
16 dredged or fill materials into Waters of the United States or adjacent wetlands
17 without a permit from the U.S. Army Corps of Engineers. Placement of dredge or fill
18 into regulated aquatic resources, including wetlands, depending on type, are regulated
19 by the federal and/or state government. The Army Corps of Engineers regulates
20 impacts to waters of the U.S. under Section 404 of the federal Clean Water Act. The
21 Clean Water Act regulates the discharge of dredge and fill materials in aquatic resources
22 deemed waters of the U.S. The State of California also regulates impacts to waters of
23 the U.S. under Section 401 of the federal Clean Water Act and regulates impacts to
24 waters of the State through the Porter Cologne Water Quality Control Act. On April 2,
25 2019, the SWRCB adopted a State Wetland Definition and Procedures for Discharges
26 of Dredged or Fill Material to Waters of the State (Procedures) that is outlined below.

27 **Federal Requirements**

28 ~~Any~~Unless considered an exempt activity under Section 404(f) of the Federal Clean
29 ~~Water Act, any~~ person, firm, or agency planning to alter or work in “waters of the
30 U.S.,” including the discharge of dredged or fill material, must first obtain
31 authorization from the ~~U.S. Army Corps of Engineers (USACE)~~ under Section 404 of
32 the Clean Water Act (CWA; 33 USC 1344). Permits, licenses, variances, or similar

1 authorization may also be required by other federal, state, and local statutes.
2 Section 10 of the Rivers and Harbors Act prohibits the obstruction or alteration of
3 navigable waters of the U.S. without a permit from USACE (33 USC 403). Activities
4 exempted under Section 404(f) are not exempted within navigable waters under
5 Section 10.

6 On April 21, 2020, the Environmental Protection Agency (EPA) and USACE published
7 the Navigable Waters Protection Rule to define “Waters of the United States” in the
8 Federal Register. On June 22, 2020 the Navigable Waters Protection Rule: Definition
9 of “Waters of the United States” (NWPR) became effective in 49 states, including
10 California, and in all US territories.

11 The NWPR regulates traditional navigable waters and perennial or intermittent
12 tributary systems, and defines four categories of regulated waters including:

- 13 > ~~The territorial seas and traditional navigable waters;~~
- 14 > ~~Perennial and intermittent tributaries to those waters;~~
- 15 > ~~Certain lakes, ponds, and impoundments; and~~
- 16 > ~~Wetlands adjacent to jurisdictional waters.~~

17 The NWPR also defines 12 categories of exempted aquatic resources:

- 18 > ~~Waters not listed as WOTUS~~
- 19 > ~~Groundwater~~
- 20 > ~~Ephemeral features~~
- 21 > ~~Diffuse stormwater run-off~~
- 22 > ~~Ditches not identified as WOTUS~~
- 23 > ~~Prior converted cropland (PCC)~~
- 24 > ~~Artificially irrigated areas~~
- 25 > ~~Artificial lakes and ponds~~
- 26 > ~~Water-filled depressions incidental to mining or construction activity~~

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1 > ~~Stormwater control features~~

2 > ~~Groundwater recharge, water reuse, and wastewater recycling structures~~

3 > ~~Waste treatment systems~~

4 With "Waters of the U.S." are defined as: "All waters that are currently used, or were
5 used in the past, or may be susceptible to use in interstate or foreign commerce,
6 including all waters that are subject to the ebb and flow of the tide; all interstate
7 waters including interstate wetlands; all other waters such as intrastate lakes, rivers,
8 streams (including intermittent streams), mudflats, sand flats, wetlands, sloughs,
9 prairie potholes, wet meadows, playa lakes or natural ponds, the use, degradation,
10 or destruction of which could affect interstate commerce; impoundments of these
11 waters; tributaries of these waters; the territorial sea; or wetlands adjacent to these
12 waters (33 Code of Federal Regulations [CFR] Part 328)."

13 Within non-tidal waters that meet the definition cited above and, in the absence of
14 adjacent wetlands, the indicator used by the USACE to determine the lateral extent
15 of USACE's jurisdiction extends to the ordinary high water mark (OHWM) – the line
16 on the shore established by fluctuations of water and indicated by a clear, natural
17 line impressed on the bank, shelving, changes in soil character, destruction of
18 terrestrial vegetation, and/or the presence of litter and debris.

19 ~~Wetlands are defined in 33 under the CFR Part 328.3 as those areas that are~~
20 ~~inundated or saturated by surface or ground water at a frequency and duration to~~
21 ~~support, and that under normal circumstances do support, a prevalence of~~
22 ~~vegetation typically adapted for life in saturated soil conditions.~~

23 The USACE has determined that not all features which meet the wetland definition
24 are, in fact, considered to be waters of the U.S. Normally, features not considered as
25 waters of the U.S. include: (a) non-tidal drainage and irrigation ditches excavated on
26 dry land; (b) artificially irrigated areas which would revert to upland if the irrigation
27 ceased; (c) artificial lakes or ponds created by excavating and/or diking dry land to
28 collect and retain water and which are used exclusively for such purposes as stock
29 watering, irrigation, settling basins, or rice growing, (d) artificial reflecting or
30 swimming pools or other small ornamental bodies of water created by excavating
31 and/or diking dry land to retain water for primarily aesthetic reasons, and, (e)
32 waterfilled depressions created in dry land incidental to construction activity and

1 pits excavated in dry land for the purpose of obtaining fill, sand, or gravel unless and
2 until the construction or excavation operation is abandoned and the resulting body
3 of water meets the definition of waters of the United States (see 33 CFR 328.3(a)).
4 Other features may be excluded based on Supreme Court decisions (e.g., SWANCC
5 and Rapanos) or by regulation.

6 Federal and state regulations pertaining to waters of the U.S., including wetlands,
7 are discussed below.

8 The Clean Water Act (33 United States Code (USC) 1251-1376). ~~The CWA~~ provides
9 guidance for the restoration and maintenance of the chemical, physical, and
10 biological integrity of the nation's waters.

11 Section 401 requires that an applicant for a federal license or permit that allows
12 activities resulting in a discharge to waters of the U.S. ~~must~~ obtain a state
13 certification that the discharge complies with other provisions of CWA. The Regional
14 Water Quality Control Board (RWQCB) administers the certification program in
15 California and may require State Water Quality Certification before other permits
16 are issued.

17 Section 402 establishes a permitting system for the discharge of any pollutant
18 (except dredged or fill material) into waters of the U.S.

19 Section 404 establishes a permit program administered by USACE that regulates the
20 discharge of dredged or fill material into waters of the U.S. (including wetlands).
21 Implementing regulations by USACE are found at 33 CFR Parts 320-332. The Section
22 404 (b)(1) Guidelines were developed by the USEPA in conjunction with USACE (40
23 CFR Part 230), allowing the discharge of dredged or fill material for non-water
24 dependent uses into special aquatic sites only if there ~~is~~were no practicable
25 alternative that would have less adverse impacts.

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1 ***State Requirements***

2 **Waters of the State**

3 Any action requiring a CWA Section 404 permit, or a Rivers and Harbors Act Section
4 10 permit, must also obtain a CWA Section 401 Water Quality Certification. The State
5 of California Water Quality Certification (WQC) Program was formally initiated by the
6 State Water Resources Control Board (SWRCB) in 1990 under the requirements
7 stipulated by section 401 of the Federal CWA. Although the Clean Water Act is a
8 Federal law, Section 401 of the CWA recognizes that states have the primary
9 authority and responsibility for setting water quality standards. In California, under
10 Section 401, the State and Regional Water Boards are the authorities that certify that
11 issuance of a federal license or permit does not violate California's water quality
12 standards (i.e., that they do not violate Porter-Cologne and the Water Code). The
13 WQC Program currently issues the WQC for discharges requiring U.S. Army Corps of
14 Engineers' (Corps) permits for fill and dredge discharges within Waters of the United
15 States, and now also implements the State's wetland protection and
16 hydromodification regulation program under the Porter Cologne Water Quality
17 Control Act.

18 On April 2, 2019, the SWRCB adopted a State Wetland Definition and Procedures for
19 Discharges of Dredged or Fill Material to Waters of the State (Procedures), for
20 inclusion in the forthcoming Water Quality Control Plan for Inland Surface Waters
21 and Enclosed Bays and Estuaries and Ocean Waters of California. The Procedures
22 consist of four major elements: 1) a wetland definition; 2) a framework for
23 determining if a feature that meets the wetland definition is a water of the state; 3)
24 wetland delineation procedures; and 4) procedures for the submittal, review and
25 approval of applications for Water Quality Certifications and Waste Discharge
26 Requirements for dredge or fill activities. The Office of administrative Law approved
27 the Procedures on August 28, 2019, and the Procedures became effective May 28,
28 2020.

29 Under the Procedures and the State Water Code (Water Code §13050(e)), "Waters of
30 the State" are defined as "any surface water or groundwater, including saline waters,
31 within the boundaries of the state." Unless excluded by the Procedures, any activity
32 that could result in discharge of dredged or fill material to Waters of the State, which

1 includes Waters of the U.S. and non-federal Waters of the State, requires filing of an
2 application under the Procedures.

3 The Porter-Cologne Water Quality Control Act (Porter-Cologne Act, Water Code
4 Section 13000 et seq.) is California’s statutory authority for the protection of water
5 quality in conjunction with the federal CWA. The Porter-Cologne Act requires the
6 SWRCB and RWQCBs under the CWA to adopt and periodically update water quality
7 control plans, or basin plans. Basin plans are plans in which beneficial uses, water
8 quality objectives, and implementation programs are established for each of the
9 nine regions in California. The Porter-Cologne Act also requires dischargers of
10 pollutants or dredged or fill material to notify the RWQCBs of such activities by filing
11 Reports of Waste Discharge and authorizes the SWRCB and RWQCBs to issue and
12 enforce waste discharge requirements, National Pollution Discharge Elimination
13 System (NPDES) permits, Section 401 water quality certifications, or other approvals.

14 **California Department of Fish and Wildlife**

15 The CDFW is a trustee agency that has jurisdiction under Section 1600 et seq. of the
16 California Fish and Game Code. Under Sections 1602 and 1603, a private party must
17 notify CDFW if a proposed project will *“substantially divert or obstruct the natural flow
18 or substantially change the bed, channel, or bank of any river, stream, or lake designated
19 by the department, or use any material from the streambeds...except when the
20 department has been notified pursuant to Section 1601.”* Additionally, CDFW asserts
21 jurisdiction over native riparian habitat adjacent to aquatic features, including native
22 trees over 4-inches in diameter at breast height (DBH). If an existing fish or wildlife
23 resource may be substantially adversely affected by the activity, CDFW may propose
24 reasonable measures that will allow protection of those resources. If these
25 measures are agreeable to the parties involved, they may enter into an agreement
26 with CDFW identifying the approved activities and associated mitigation measures.
27 Generally, CDFW recommends submitting an application for a Streambed Alteration
28 Agreement (SAA) for any work done within the lateral limit of water flow or the edge
29 of riparian vegetation, whichever is greater.

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1 **AIR QUALITY**

2 Air quality describes the concentration of pollutants present in the air at a particular
3 location. For a specific location, the air quality is a direct result of how air moves
4 through the area and how people are influencing the air through the operation of
5 emissions sources. Air quality is an important natural resource that influences public
6 health and welfare and quality of life. Air pollutants can adversely affect public
7 health, visibility, native vegetation, and agricultural production.

8 Ambient concentrations of air pollutant emissions are determined by the amount of
9 emissions released by air pollutant sources and the atmosphere's ability to
10 transport and dilute such emissions. Natural factors that affect transport and
11 dilution include terrain, wind, atmospheric stability, and the presence of sunlight.
12 Therefore, existing air quality conditions in the area are determined by such natural
13 factors as climate, topography, and meteorology, in addition to the total emissions
14 generated, as discussed separately below.

15 Greenhouse gas (GHG) emissions and energy use are often associated with air
16 quality. These topics are addressed later in this Natural Resources Setting section.

17 **Major Findings**

18 The following provides a summary of key findings for consideration in the General
19 Plan update. The technical background on each topic is further discussed in the
20 sections to follow.

21 > In Placer County, the majority of ozone precursor (reactive organic gases
22 [ROG] and nitrogen oxides [NOX]) emissions come from mobile sources such
23 as cars, trucks, and trains. Off-road mobile emissions, such as construction
24 and agricultural equipment account for approximately 25 percent of ozone
25 precursor emissions. The majority of particulate matter (PM) emissions
26 within Placer County in the Sacramento Valley Air Basin (SVAB) are
27 attributable area-wide sources associated with construction and demolition
28 activities, as well as re-entrained roadway dust and residential fuel
29 combustion. There are no major stationary sources (e.g., petroleum
30 refineries, large manufacturing plants, etc.) in the Town of Loomis.

- 1 > The Town of Loomis is within the SVAB and is under the jurisdiction of the
2 Placer County Air Pollution Control District (PCAPCD). The portion of Placer
3 County and the SVAB in which Loomis is located is designated as a
4 nonattainment area for ozone and particulate matter with an aerodynamic
5 diameter of 2.5 micrometers or less (PM2.5) under the National Ambient Air
6 Quality Standards (NAAQS) and California Ambient Air Quality Standards
7 (CAAQS), and as nonattainment for particulate matter with an aerodynamic
8 diameter of 10 micrometers or less (PM10) under the CAAQS. A
9 nonattainment area is an area for which the State or federal standards have
10 been exceeded for that pollutant. In order to attain the NAAQS and CAAQS in
11 the region at the earliest practicable date, PCAPCD is required to comply with
12 and implement the applicable air quality attainment plan.
- 13 > Naturally occurring asbestos is known to be present in several foothill areas
14 of Placer County. However, the Town of Loomis is within an area categorized
15 as least likely to contain naturally occurring asbestos (Department of
16 Conservation 2006). However, asbestos may have been used during the
17 construction of existing structures; this would be an important consideration
18 during demolition or renovation of existing structures.
- 19 > Sources of toxic air contaminants (TACs) present within the Planning Area
20 include dry cleaning facilities, gasoline stations, and diesel backup
21 generators, which are subject to the rules and regulations and permitting
22 requirements of PCAPCD. Unpermitted sources also include on-road vehicles
23 associated with Interstate (I-) 80 and concentrated use of off-road, diesel-
24 powered heavy-duty equipment, such as that used in agricultural production
25 and construction sites.

26 **Climate, Topography and Meteorology**

27 The Loomis Planning Area is located in the SVAB, which is characterized by cool
28 winters and hot, dry summers tempered by occasional westerly breezes from the
29 Sacramento/San Joaquin Delta. The region has a Mediterranean climate,
30 characterized by hot, dry summers and cool, rainy winters.

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1 In general, the SVAB is relatively flat and bounded by the north Coast Ranges to the
2 west and the northern Sierra Nevada to the east. Air flows into the SVAB through the
3 Carquinez Strait, the only breach in the western mountain barrier, and moves across
4 the Sacramento–San Joaquin Delta from the San Francisco Bay Area. The inland
5 location and surrounding mountains typically prevent the area from experiencing
6 much of the ocean breeze that moderates the temperatures in coastal regions. The
7 mountains surrounding the Sacramento Valley create a barrier to air flow, which can
8 trap in air pollutants, particularly in the autumn and early winter when large
9 pressure cells lie over the Sacramento Valley and temperatures are low. The lack of
10 surface wind during these periods and reduced vertical flow caused by less surface
11 heating, reduces the influx of outside air and allows air pollutants generated within
12 the SVAB to become concentrated in a stable volume of air. Ground concentrations
13 are the highest when these conditions are combined with smoke from agricultural
14 burning or forest fires or temperature inversions the trap cool air, fog, and
15 pollutants near the ground. Alternatively, winds and unstable atmospheric
16 conditions associated with the passage of winter storms result in periods of low air
17 pollution and excellent visibility.

18 Characteristic of the winter months in the SVAB are periods of dense and persistent
19 low-level fog, which are most prevalent between storms. This precipitation and fog
20 also tend to reduce or limit some pollutant concentrations. However, between
21 winter storms, high pressure and light winds contribute to low-level temperature
22 inversions and stable atmospheric conditions, resulting in the concentration of air
23 pollutants.

24 May through October is ozone season in the SVAB and is characterized by poor air
25 movement in the mornings and the arrival of the Delta sea breeze from the
26 southwest in the afternoons. In addition, with the longer daylight hours, a larger
27 amount of sunlight is available to fuel photochemical reactions between volatile
28 organic compounds (VOC) and NO_x, which in turn result in ozone formation.
29 Typically, the Delta breeze transports air pollutants northward out of the SVAB.
30 However, during approximately half of the time from July to September, a
31 phenomenon known as the Schultz Eddy prevents this from occurring. The Schultz
32 Eddy phenomenon causes winds on the west side of the SVAB to shift to a northerly
33 wind, blowing air pollutants southward back into the SVAB. This phenomenon

1 exacerbates the concentration of air pollutant emissions in the air basin and can
2 contribute to violations of ambient air quality standards.

3 **Criteria Air Pollutants**

4 There are many pollutants present in the atmosphere, although most are not a
5 significant public health concern in the Planning Area. California Air Resources Board
6 (ARB) and the U.S. Environmental Protection Agency (EPA) have identified six air
7 pollutants as being indicators of ambient air quality: ozone, carbon monoxide (CO),
8 nitrogen dioxide (NO₂), sulfur dioxide (SO₂), PM (often analyzed separately as PM₁₀
9 and PM_{2.5}), and lead. Because the ambient air quality standards for these air
10 pollutants are regulated using human health and environmentally based criteria,
11 they are commonly referred to as “criteria air pollutants.” Criteria air pollutants of
12 concern in the Planning Area are summarized below.

13 ***Ozone***

14 Ozone is the most common component of smog and is the principal pollutant that
15 causes adverse health effects. Ozone is toxic and colorless, and has a pungent odor.
16 In high concentrations, ozone and other photochemical oxidants are directly
17 detrimental to humans by causing respiratory irritation and possible alterations in
18 the functioning of the lungs. Ozone and other oxidants can also enter the leaves of
19 plants and reduce photosynthesis, which is the process that plants use to convert
20 sunlight to energy to live and grow.

21 Ozone is not emitted directly into the air but is formed through a series of reactions
22 involving ROG and NO_x in the presence of sunlight. These chemicals are considered
23 to be precursors of ozone, as their reaction leads to its formation. ROG emissions
24 result primarily from incomplete combustion and the evaporation of chemical solvents
25 and fuels. NO_x includes various combinations of nitrogen and oxygen, including nitric
26 oxide, NO₂, and others, typically resulting from the combustion of fuels.

27 Emissions of both ROG and NO_x are considered critical to ozone formation;
28 therefore, either ROG or NO_x can limit the rate of ozone production. When the
29 production rate of NO_x is lower, indicating that NO_x is scarce, the rate of ozone

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1 production is NO_x-limited. Under these circumstances, ozone levels could be most
2 effectively reduced by lowering current and future NO_x emissions (from fuel
3 combustion), rather than by lowering ROG emissions. Rural areas tend to be NO_x-
4 limited, while areas with dense urban populations tend to be ROG-limited. Both
5 ROG and NO_x reductions provide ozone benefits in the region, but the Sacramento
6 Federal Nonattainment Area, which includes Placer County, exhibits a NO_x-limited
7 regime; therefore, NO_x reductions (such as those available through reducing mobile
8 source emissions) are more effective than ROG reductions on a tonnage basis
9 (SMAQMD 2017).

10 Ozone concentrations reflect an interplay of emissions of ozone precursors,
11 transport, meteorology, and atmospheric chemistry. Meteorology and terrain play a
12 major role in ozone formation. Generally, low wind speeds or stagnant air, coupled
13 with warm temperatures and clear skies provide the optimum conditions for
14 formation. As a result, summer is generally the peak ozone season. Because of the
15 reaction time involved, peak ozone concentrations often occur far downwind of the
16 precursor emissions. Therefore, ozone is a regional pollutant that often affects large
17 areas.

18 Individuals exercising outdoors, children, and people with lung disease, such as
19 asthma and chronic pulmonary lung disease, are considered to be the most
20 susceptible subgroups for ozone effects. Short-term ozone exposure (lasting for a
21 few hours) can result in changes in breathing patterns, reductions in breathing
22 capacity, increased susceptibility to infections, inflammation of lung tissue, and
23 some immunological changes. A correlation has also been reported between
24 elevated ambient ozone levels and increases in daily hospital admission rates and
25 mortality (EPA 2020a). An increased risk of asthma has been found in children who
26 participate in multiple sports and live in communities with high ozone levels.

27 Emissions of the ozone precursors ROG and NO_x have decreased in the past several
28 years. According to the most recently published edition of ARB's California Almanac
29 of Emissions and Air Quality, NO_x and ROG emissions levels in the Sacramento
30 metropolitan area (inclusive of the southern portion of the SVAB, as well as the
31 western portions of El Dorado and Placer counties, within which the Planning Area is
32 located) are projected to continue to decrease through 2035, largely because of
33 more stringent motor vehicle standards and cleaner burning fuels, as well as rules

1 for controlling ROG emissions from industrial coating and solvent operations (ARB
2 2013).

3 ***Carbon Monoxide***

4 CO is a colorless and odorless gas that is primarily produced by the incomplete
5 burning of carbon in fuels such as natural gas, gasoline, and wood, and is emitted by
6 a wide variety of combustion sources, including on-road and non-road mobile
7 sources, wood-burning stoves, incinerators, industrial sources, and wildfires. On-
8 road and non-road mobile sources account for approximately 38 percent and 26
9 percent, respectively, of all CO emissions nationwide (EPA 2020b). Relatively high
10 concentrations are typically found near crowded intersections and along heavily
11 used roadways carrying slow-moving traffic. Even under the most severe
12 meteorological and traffic conditions, high concentrations of CO are limited to
13 locations within a relatively short distance (300 to 600 feet) of heavily traveled
14 roadways. Vehicle traffic emissions can cause localized CO impacts, and severe
15 vehicle congestion at major signalized intersections can generate elevated CO levels,
16 called “hot spots,” which can be hazardous to human receptors adjacent to the
17 intersections.

18 Adverse health effects associated with exposure to high CO concentrations, typically
19 only attainable indoors or within similarly enclosed spaces, include dizziness,
20 headaches, and fatigue. CO exposure is especially harmful to unborn babies, infants,
21 elderly people, and people with anemia or with a history of heart or respiratory
22 disease (ARB 2020a).

23 ***Nitrogen Dioxide***

24 NO₂ is one of a group of highly reactive gases known as oxides of nitrogen, or NO_x.
25 NO₂ is formed when ozone reacts with nitric oxide (i.e., NO) in the atmosphere and
26 is listed as a criteria pollutant because NO₂ is more toxic than nitric oxide. The major
27 human-made sources of NO₂ are combustion devices, such as boilers, gas turbines,
28 and mobile and stationary reciprocating internal combustion engines. The
29 combined emissions of nitric oxide and NO₂ are referred to as NO_x and reported as
30 equivalent NO₂. Because NO₂ is formed and depleted by reactions associated with
31 ozone, the NO₂ concentration in a geographical area may not be representative of

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1 local NO_x emission sources. NO_x also reacts with water, oxygen, and other chemicals
2 to form nitric acids, contributing to the formation of acid rain.

3 Inhalation is the most common route of exposure to NO₂. Breathing air with a high
4 concentration of NO₂ can lead to respiratory illness. Short-term exposure can
5 aggravate respiratory diseases, particularly asthma, resulting in respiratory
6 symptoms (such as coughing, wheezing, or difficulty breathing), hospital admissions,
7 and visits to emergency rooms. Longer exposures to elevated concentrations of NO₂
8 may contribute to the development of asthma and potentially increase susceptibility
9 to respiratory infections. Larger decreases in lung functions are observed in
10 individuals with asthma or chronic obstructive pulmonary disease (e.g., chronic
11 bronchitis, emphysema) than in healthy individuals, indicating a greater
12 susceptibility of these subgroups (EPA 2016).

13 ***Sulfur Dioxide***

14 SO₂ is one component of the larger group of gaseous oxides of sulfur (SO_x). SO₂ is
15 used as the indicator for the larger group of SO_x, as it is the component of greatest
16 concern and found in the atmosphere at much higher concentrations than other
17 gaseous SO_x. SO₂ is typically produced by such stationary sources as coal and oil
18 combustion facilities, steel mills, refineries, and pulp and paper mills. The major
19 adverse health effects associated with SO₂ exposure pertain to the upper
20 respiratory tract. On contact with the moist mucous membranes, SO₂ produces
21 sulfurous acid, a direct irritant. Concentration rather than duration of exposure is an
22 important determinant of respiratory effects. Children, the elderly, and those who
23 suffer from asthma are particularly sensitive to effects of SO₂ (EPA 2019).

24 SO₂ also reacts with water, oxygen, and other chemicals to form sulfuric acids,
25 contributing to the formation of acid rain. SO₂ emissions that lead to high
26 concentrations of SO₂ in the air generally also lead to the formation of other SO_x,
27 which can react with other compounds in the atmosphere to form small particles,
28 contributing to particulate matter pollution, which can have health effects of its
29 own.

1 ***Particulate Matter***

2 Particulate matter refers to a complex mixture of small solid matter and fine droplets
3 (aerosols) made up of several components, including acids (such as nitrates and
4 sulfates), organic chemicals, metals, and soil or dust particles. The major area-wide
5 sources of PM_{2.5} and PM₁₀ are fugitive dust, especially from roadways, agricultural
6 operations, and construction and demolition. Other sources of PM₁₀ include
7 crushing or grinding operations. PM_{2.5} sources also include all types of combustion,
8 including motor vehicles, power plants, residential wood burning, forest fires,
9 agricultural burning, and some industrial processes. Exhaust emissions from mobile
10 sources contribute only a very small portion of directly emitted PM_{2.5} and PM₁₀
11 emissions. However, they are a major source of ROG and NO_x, which undergo
12 reactions in the atmosphere to form PM, known as secondary particles. These
13 secondary particles make up the majority of PM pollution.

14 The size of PM is directly linked to its potential for causing health problems. EPA is
15 concerned about particles that are 10 micrometers in diameter or smaller, because
16 these particles generally pass through the throat and nose and enter the lungs.
17 Once inhaled, these particles can affect the heart and lungs and cause serious
18 health effects, even death. The adverse health effects of PM₁₀ depend on the specific
19 composition of the particulate matter. For example, health effects may be
20 associated with metals, polycyclic aromatic hydrocarbons, and other toxic
21 substances adsorbed onto fine PM (referred to as the “piggybacking effect”), or with
22 fine dust particles of silica or asbestos. Effects from short- and long-term exposure
23 to elevated concentrations of PM₁₀ include respiratory symptoms, aggravation of
24 respiratory and cardiovascular diseases, a weakened immune system, and cancer
25 (World Health Organization 2018).

26 PM_{2.5} poses an increased health risk because these very small particles can be
27 inhaled deep in the lungs and may contain substances that are particularly harmful
28 to human health. Direct emissions of PM_{2.5} in the Sacramento metropolitan area
29 decreased between 2000 and 2010, but are projected to increase very slightly
30 through 2035. Similarly, emissions of diesel particulate matter (DPM) decreased
31 from 2000 through 2010 because of reduced exhaust emissions from diesel mobile
32 sources. These emissions are anticipated to continue to decline through 2035 (ARB
33 2013).

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1 **Lead**

2 Lead is a highly toxic metal that may cause a range of human health effects. Lead is
3 found naturally in the environment and is used in manufactured products.
4 Previously, the lead used in gasoline anti-knock additives represented a major
5 source of lead emissions to the atmosphere. Soon after its inception, EPA began
6 working to reduce lead emissions, issuing the first reduction standards in 1973.
7 Lead emissions have decreased substantially as a result of the near elimination of
8 leaded gasoline use. Metal processing is currently the primary source of lead
9 emissions. The highest levels of lead in air are generally found near lead smelters.
10 Other stationary sources are waste incinerators, utilities, and lead-acid battery
11 manufacturers. Although the ambient lead standards are no longer violated, lead
12 emissions from stationary sources still pose “hot spot” problems in some areas. As a
13 result, ARB has identified lead as a toxic air contaminant (TAC).

14 Fetuses, infants, and children are more sensitive than others to the adverse effects
15 of lead exposure. Exposure to low levels of lead can adversely affect the
16 development and function of the central nervous system, leading to learning
17 disorders, distractibility, inability to follow simple commands, and lower intelligence
18 quotients. In adults, increased lead levels are associated with increased blood
19 pressure. Lead poisoning can cause anemia, lethargy, seizures, and death, although
20 it appears that lead does not directly affect the respiratory system.

21 **Regional Ambient Air Quality**

22 Both the EPA and the ARB have established air quality standards for the criteria air
23 pollutants, based on consideration of the health and welfare of the general public.
24 The NAAQS and the CAAQS are summarized in Table 3-7. In addition to standards
25 for the criteria air pollutants, California has also set CAAQS for visibility reducing
26 particles, sulfates, hydrogen sulfide, and vinyl chloride. These health-based pollutant
27 standards are reviewed with a legally prescribed frequency and are revised, as
28 warranted, by new data on health and welfare effects. Each standard is based on a
29 specific averaging time over which the concentration is measured. Different
30 averaging times are based on protection from short-term, high-dosage effects or
31 longer term, low-dosage effects.

Table 3-7: Ambient Air Quality Standards				
Pollutant	Averaging Time	California Standards^{a,c}	Primary National Standards^{b,c,d}	Secondary National Standards^{b,c,e}
Ozone ^f	1-Hour 8-Hour	0.09 ppm (180 µg/m ³) 0.07 ppm (137 µg/m ³)	--- 0.07 ppm (137 µg/m ³)	Same as primary standard
Carbon Monoxide (CO)	1-Hour 8-Hour	20 ppm (23 mg/m ³) 9.0 ppm (10 mg/m ³)	35 ppm (40 mg/m ³) 9.0 ppm (10 mg/m ³)	---
Nitrogen Dioxide (NO ₂) ^g	1-Hour Annual Arithmetic Mean	0.18 ppm (339 µg/m ³) 0.030 ppm (57 µg/m ³)	100 ppb (188 µg/m ³) 0.053 ppm (100 µg/m ³)	--- Same as Primary Standard
Sulfur Dioxide (SO ₂) ^h	24-Hour 3-Hour 1-Hour	0.04 ppm (105 µg/m ³) --- 0.25 ppm (655 µg/m ³)	--- --- 75 ppb (196 µg/m ³)	--- 0.5 ppm (1,300 µg/m ³) ---
Inhalable Particulate Matter (PM ₁₀) ⁱ	24-Hour Annual Arithmetic Mean	50 µg/m ³ 20 µg/m ³	150 µg/m ³ ---	Same as Primary Standard ---
Fine Particulate Matter (PM _{2.5}) ⁱ	Annual Arithmetic Mean 24-Hour	12.0 µg/m ³ ---	12.0 µg/m ³ 35.0 µg/m ³	15.0 µg/m ³ Same as Primary Standard
Lead	30-Day Average Rolling 3-Month Average	1.5 µg/m ³ ---	--- 0.15 µg/m ³	--- Same as Primary Standard
Visibility-reducing Particles ^l	8-Hour	See footnote 1	No National Standards	
Sulfates	24-Hour	25 µg/m ³		
Hydrogen Sulfide	1-Hour	0.03 ppm (42 µg/m ³)		
Vinyl Chloride ^j	24-Hour	0.01 ppm (26 µg/m ³)		

Source: ARB 2020b

Notes: µg/m³ = micrograms per cubic meter; mg/m³ = milligrams per cubic meter; ppb = parts per billion; ppm = parts per million

^a California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1- and 24-hour), nitrogen dioxide, and particulate matter (PM₁₀, PM_{2.5}, and visibility-reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded.

California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

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- ^b National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over 3 years, is equal to or less than the standard. For PM₁₀, the 24-hour is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m³ is equal to or less than 1. For PM_{2.5}, the 24-hour standard is attained when 98% of the daily concentrations, averaged over 3 years, are equal to or less than the standards.
- ^c Concentration expressed first in the units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25 degrees Celsius (°C) and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and reference pressure of 760 torr; "ppm" in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
- ^d National Primary Standards: The levels of air quality necessary, with an adequate margin of safety, to protect the public health.
- ^e National Secondary Standards: Levels of air quality necessary to protect public welfare from any known or anticipated adverse effects of a pollutant.
- ^f On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.
- ^g To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. California standards are in units of ppm. To directly compare the national 1-hour standard to the California standards, the units can be converted from 100 ppb to 0.100 ppm.
- ^h On June 2, 2010, a new 1-hour SO₂ standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO₂ national standards (24-hour and annual) remain in effect until 1 year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved. To directly compare the 1-hour national standard to the California standard, the units can be converted to ppm. In this case, the national standard of 75 ppb is identical of 0.075 ppm.
- ⁱ On December 14, 2012, the national annual PM_{2.5} primary standard was lowered from 15 µg/m³ to 12.0 µg/m³. The existing national 24-hour PM_{2.5} standards (primary and secondary) were retained at 35 µg/m³, as was the annual secondary standard of 15 µg/m³. The existing 24-hour PM₁₀ standards (primary and secondary) of 150 µg/m³ also were retained. The form of the annual primary and secondary standards is the annual mean averaged over 3 years.
- ^j ARB has identified lead and vinyl chloride as toxic air contaminants with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.
- ^k The national standard for lead was revised on October 15, 2008, to a rolling 3-month average. The 1978 lead standard (1.5 µg/m³ as a quarterly average) remains in effect until 1 year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standards are approved.
- ^l In 1989, ARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and the "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

1

2 ***Air Quality Attainment Status***

3 The Federal and California Clean Air Acts require identification and classification of
4 each state air basin as attainment, nonattainment, or unclassified based on the
5 NAAQS and CAAQS. An attainment designation for a particular pollutant indicates
6 that available ambient monitoring data have shown that the NAAQS or CAAQS for
7 that pollutant have not been violated (or exceeded). A nonattainment designation
8 for a given pollutant indicates that the standards have been exceeded for that
9 pollutant. An unclassified designation indicates that insufficient ambient monitoring
10 data are available to determine whether or not there have been violations of the
11 NAAQS or CAAQS for the pollutant in question. For regulatory purposes, an
12 unclassified area is generally treated the same as an attainment area.

13 Table 3-8 provides the attainment status for each pollutant in the Sacramento Valley
14 Air Basin. The Planning Area is in non-attainment for ozone and PM_{2.5} based on both

- 1 State and federal standards. For PM₁₀, it is in nonattainment for the State standard
- 2 only. The Planning Area is in attainment or unclassified for all other pollutants.

Table 3-8: Attainment Status of the Sacramento Valley Air Basin			
Pollutant	Averaging Time	Federal Status	State Status
Ozone	1-Hour	---	Nonattainment
Ozone	8-Hour	Nonattainment	Nonattainment
Carbon Monoxide (CO)	1-Hour	Attainment	Attainment
Carbon Monoxide (CO)	8-Hour	Attainment	Attainment
Nitrogen Dioxide (NO ₂)	1-Hour	Unclassified	Attainment
Nitrogen Dioxide (NO ₂)	Annual Arithmetic Mean	Attainment	Attainment
Sulfur Dioxide (SO ₂)	24-Hour	Attainment	Attainment
Sulfur Dioxide (SO ₂)	3-Hour	Attainment	Attainment
Sulfur Dioxide (SO ₂)	1-Hour	Attainment	Attainment
Respirable Particulate Matter (PM ₁₀)	24-Hour	Attainment	Nonattainment
Respirable Particulate Matter (PM ₁₀)	Annual Arithmetic Mean	---	Nonattainment
Fine Particulate Matter (PM _{2.5})	Annual Arithmetic Mean	Attainment	Nonattainment
Fine Particulate Matter (PM _{2.5})	24-Hour	Nonattainment	---
Lead	30-Day Average	Attainment	Attainment
Lead	Rolling 3-Month Average	Attainment	Attainment
Visibility-reducing Particles	8-Hour	No National Standards	Unclassified
Sulfates	24-Hour	No National Standards	Attainment

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Table 3-8: Attainment Status of the Sacramento Valley Air Basin			
Pollutant	Averaging Time	Federal Status	State Status
Hydrogen Sulfide	1-Hour	No National Standards	Unclassified
Vinyl Chloride	24-Hour	No National Standards	Unclassified

Source: ARB 2020c, EPA 2020c. Data compiled by AECOM.

1 ***Toxic Air Contaminants***

2 In addition to criteria pollutants, both federal and State air quality regulations also
 3 focus on TACs. A TAC is defined as an air pollutant that may cause or contribute to
 4 an increase in mortality or in serious illness, or that may otherwise pose a hazard to
 5 human health. The health risks of individual toxic air contaminants vary greatly; at a
 6 given level of exposure, one toxic air contaminant may pose a hazard that is many
 7 times greater than another. TACs are identified and their toxicity is studied by the
 8 California Office of Environmental Health Hazard Assessment (OEHHA). TACs are
 9 usually present in minute quantities in the ambient air; however, their toxicity or
 10 health risk may pose a threat to public health even at low concentrations. TACs can
 11 be separated into carcinogens and noncarcinogens, based on the nature of the
 12 effects associated with exposure to the pollutant. For regulatory purposes,
 13 carcinogens are assumed to have no safe threshold below which health impacts
 14 would not occur. Noncarcinogens differ in that there is generally assumed to be a
 15 safe level of exposure below which no negative health impact is believed to occur.

16 Stationary sources of TACs include gasoline stations, dry cleaners, and diesel backup
 17 generators, among which are subject to PCAPCD permit requirements. On-road
 18 motor vehicles and off-road sources, such as construction equipment and trains, are
 19 also common sources of TACs. In terms of health risks, the most volatile
 20 contaminants are DPM, benzene, formaldehyde, 1,3-butadiene and acetaldehyde.
 21 Gasoline vapors contain several TACs, including benzene, toluene, and xylenes.
 22 Public exposure to TACs can result from emissions from normal operations, as well
 23 as accidental releases.

1 PM_{2.5} and DPM exposure is strongly associated with mortality, respiratory diseases,
2 and lung development in children, and other endpoints such as hospitalization for
3 cardiopulmonary disease. ARB identified DPM as a TAC in 1998 based on data
4 developed and reviewed by the OEHHA and ARB in the scientific risk assessment on
5 exposure to diesel exhaust and its health effects (ARB 1998). Other agencies, such as
6 the National Toxicology Program, the EPA and the National Institute of Occupational
7 Safety and Health, concluded that exposure to diesel exhaust likely causes cancer.
8 More recently, the World Health Organization's International Agency for Research on
9 Cancer classified diesel engine exhaust as carcinogenic to humans (Group 1), an
10 increase from the prior 1998 classification by the International Agency for Research
11 on Cancer (IARC) as probably carcinogenic to humans (Group 2A) (World Health
12 Organization 2012). According to the 2009 California Almanac of Emissions and Air
13 Quality (California Air Resources Board 2009), the majority of the estimated health
14 risk from TACs can be attributed to relatively few compounds, the most important
15 being diesel PM. Diesel PM differs from other TACs in that it is not a single
16 substance, but rather a complex mixture of hundreds of substances. Although diesel
17 PM is emitted by diesel-fueled internal-combustion engines, the composition of the
18 emissions varies depending on engine type, operating conditions, fuel composition,
19 lubricating oil, and whether an emission control system is present.

20 Diesel powered engines, including locomotive engines and heavy-duty diesel-
21 powered vehicles, represent a major source of DPM in California. Because
22 locomotive engines and heavy-duty diesel-powered vehicles emit DPM during
23 operations, areas where locomotive engines are operated in place/idle frequently or
24 for long periods of time, and areas in proximity to high-volume freeways can
25 experience increased atmospheric concentrations of DPM. Consequently, the ARB
26 considers railyards and high-volume freeways to be substantial sources of TACs. The
27 Planning Area does not contain a railyard, distribution centers, or other such
28 substantial sources of DPM. The Union Pacific Railroad does traverse the Planning
29 Area; however, DPM emissions from locomotives traveling along railroads are
30 intermittent and dispersed, and therefore do not pose the same health risk as
31 concentrated sources such as a railyard. I-80, a high-volume freeway, runs southeast
32 to northwest through the Planning Area and is considered a potential source of DPM
33 and gasoline-related TACs.

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1 Asbestos is the name given to several naturally occurring fibrous silicate minerals.
2 Asbestos has been mined for applications requiring thermal insulation, chemical
3 and thermal stability, and high tensile strength. Asbestos is also found in its natural
4 state in rock or soil (known as naturally occurring asbestos), typically in ultramafic or
5 serpentine rock formations. Naturally occurring asbestos is known to be present in
6 several foothill areas of Placer County, but according to the Special Report 190:
7 Relative Likelihood for the Presence of Naturally Occurring Asbestos in Placer
8 County, California prepared by the Department of Conservation (2006), the Town of
9 Loomis is within an area categorized as least likely to contain naturally occurring
10 asbestos, because faults and serpentinite outcroppings are not known to be in the
11 Planning Area. However, asbestos may have been used during the construction of
12 existing structures, which should be considered when such structures are proposed
13 for demolition.

14 ***Odors***

15 The ability to detect odors varies considerably among the population and is
16 subjective. Some individuals can smell minute quantities of specific substances,
17 while others may not have the same sensitivity but may be sensitive to odors of
18 other substances. In addition, people may have different reactions to the same
19 odor; an odor that is offensive to one person (e.g., from a fast-food restaurant or
20 bakery) may be perfectly acceptable to another. Unfamiliar odors may be more
21 easily detected and likely to cause complaints than familiar ones.

22 Several examples of common land uses that generate substantial odors are
23 wastewater treatment plants, landfills, composting/green waste facilities, recycling
24 facilities, petroleum refineries, chemical manufacturing plants, painting/coating
25 operations, rendering plants, and food packaging plants. In addition, odors can be
26 caused by agricultural activities, such as dairy operations; horse, cattle, or sheep
27 (livestock) grazing; fertilizer use; and aerial crop spraying.

28 Offensive odors can affect human health in several ways. First, odorant compounds
29 can irritate the eye, nose, and throat, which can reduce respiratory volume. Second,
30 the VOCs that cause odors can stimulate sensory nerves to cause neurochemical
31 changes that might influence health, for instance, by compromising the immune

1 system. Finally, unpleasant odors can trigger memories or attitudes linked to
2 unpleasant odors, causing cognitive and emotional effects, such as stress.

3 No single source of substantial odors is identified in the Planning Area. However, the
4 Loomis area supports substantial agricultural uses, often in close proximity to
5 residences and other odor-sensitive land uses. Typical odors from such uses include
6 manure from livestock and fertilizer for crop production, which are often perceived
7 as objectionable. Consequently, while odors are not an acute problem within the
8 Planning Area, they may be considered substantial by some especially sensitive area
9 residents.

10 **Air Quality Regulatory Framework**

11 Air pollution control is administered on three government levels in California: Federal
12 (EPA), State (ARB), and local PCAPCD. The PCAPCD administers air pollution control
13 programs in Placer in consultation with the EPA and ARB.

14 ***Federal***

15 **Clean Air Act and Ambient Air Quality Standards**

16 The primary legislation that governs federal air quality regulations is the California
17 Clean Air Act (CCAA), enacted in 1970 and amended by Congress most recently in
18 1990. The CAA delegates primary responsibility for clean air to EPA. EPA develops
19 rules and regulations to preserve and improve air quality and delegates specific
20 responsibilities to state and local agencies. The CAA directs EPA to establish federal
21 air quality standards, known as NAAQS for six criteria air pollutants: ozone, CO, PM
22 (both PM₁₀ and PM_{2.5}), SO₂, NO₂ and lead. NAAQS include both primary and
23 secondary standards; the former are set to protect public health with an adequate
24 margin of safety, the latter to prevent degradation to the environment (e.g.,
25 impairment of visibility, damage to vegetation). Table 3-7 above summarizes NAAQS
26 currently in effect for each criteria air pollutant.

27 The CAA places most of the responsibility on states to achieve compliance with
28 NAAQS. Each state is required to submit and implement an air quality control plan,

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1 referred to as a State Implementation Plan (SIP) for local areas not meeting NAAQS.
2 The SIP must include pollution control measures that demonstrate how the
3 standards will be met by the dates specified in the CAA. The SIP is periodically
4 modified to reflect the latest emissions inventories, planning documents, and rules
5 and regulations of the air basins as reported by their jurisdictional agencies. EPA is
6 responsible for reviewing all SIPs to determine whether they conform to the
7 mandates of the CAA and its amendments and to determine whether implementing
8 them will achieve ambient air quality standards. If EPA determines a SIP to be
9 inadequate, a federal implementation plan that imposes additional control
10 measures may be prepared for the nonattainment area. Failure to submit an
11 approvable SIP or to implement the plan within the mandated time frame may
12 result in sanctions to transportation funding and stationary air pollution sources in
13 the air basin.

14 In California, EPA has delegated authority to prepare SIPs to ARB, which, in turn, has
15 delegated that authority to individual air districts. ARB traditionally has established
16 state air quality standards, maintaining oversight authority in air quality planning,
17 developing programs for reducing emissions from motor vehicles, developing air
18 emissions inventories, collecting air quality and meteorological data, and approving
19 SIPs.

20 **Locomotive Emissions Standards**

21 In March 2008, EPA adopted a three-part emissions standard program to reduce
22 emissions from diesel locomotives over time. The regulation tightens emission
23 standards for existing, remanufactured locomotives, and sets exhaust emission
24 standards for newly build locomotives of model years 2011-2014 (Tier 3) and 2015
25 and beyond (Tier 4). The regulation is expected to reduce PM emissions from
26 locomotive engines by as much as 90 percent and NO_x emissions by as much as 80
27 percent when fully implemented.

28 ***State***

29 Assembly Bill 2595, known as the CCAA took effect on January 1, 1989. The goal of
30 this bill is to attain the CAAQS by the earliest practicable date. The CCAA requires
31 that air quality plans be prepared for areas of the state that have not met state air

1 quality standards for O₃, CO, NO₂, and SO₂. Among other requirements of the CCAA,
2 the plans must include a wide range of implementable control measures, which
3 often include transportation control measures and performance standards. In order
4 to implement the transportation-related provisions of the CCAA, local air pollution
5 control districts have been granted explicit authority to adopt and implement
6 transportation control measures. The applicable AQAP for Placer County is
7 discussed below with regard to the PCAPCD.

8 **California Code of Regulations**

9 **Title 13** regulates motor vehicles.

10 Chapters 3.5 and 3.6 require that all heavy-duty vehicles powered by a diesel engine
11 and operating on California highways, submit to a smoke emissions test. Vehicles
12 with 1991 or newer model-year diesel engines may not exceed an opacity level of
13 more than 40 percent. Vehicles with 1990 or older model-year diesel engines may
14 not exceed an opacity level of 55 percent.

15 Chapter 9 regulates off-road vehicles and engine pollution control devices. Article
16 4.8 regulates diesel fleet emissions. The contractor shall use ARB ultra-low-sulfur
17 diesel fuel for all diesel-powered equipment. In addition, low sulfur fuel shall be
18 utilized for all stationary equipment. Targets for each year between 2011 and 2020
19 are mandated for particulate matter emissions. A large or medium fleet must meet
20 a DPM index that is less than or equal to the calculated target rates. Small fleets will
21 be required to comply with DPM averages starting in 2020. Article 5, the California
22 Portable Equipment Registration Program, regulates portable equipment and
23 requires that such equipment be registered with the air district. Registered portable
24 engines shall not exceed the following emission limits:

- 25 > 550 pounds per day per engine of CO
- 26 > 150 pounds per day per engine of particulate matter less than 10 microns
- 27 > For registered portable engines operating onshore, 10 tons for each pollutant
28 per district per year per engine for NO_x, SO_x, VOC, PM₁₀ and CO in non-
29 attainment areas.

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1 Chapter 10 regulates mobile source operations and includes provisions to address
2 airborne toxics from diesel-fueled off- and on-road vehicles. Sections 2449 and 2485
3 limit idling time to a maximum of 5 minutes for off-road diesel-fueled construction
4 vehicles heavy-duty commercial diesel vehicles (defined as diesel vehicles heavier
5 than 10,000 pounds gross vehicle rated weight) and, respectively.

6 **Title 17, Section 93105**, codifies the Asbestos Airborne Toxic Control Measure for
7 Construction, Grading, Quarrying, and Surface Mining Operations. Each air pollution
8 control and air quality management district are required to implement and enforce
9 the requirements of Section 93105 to minimize asbestos-containing dust.

10 **Title 20** requires manufacturers of appliances to meet State and federal standards
11 for energy and water efficiency. Performance of appliances must be certified
12 through the California Energy Commission to demonstrate compliance with
13 standards.

14 **Title 24** serves to enhance and regulate California’s building standards.

15 Part 6, establishes building energy efficiency standards that save energy, increase
16 electricity supply reliability, increase indoor comfort, and help preserve the
17 environment.

18 Part 11, the California Green Building Standards Code, commonly referred to as
19 CALGreen, set minimum mandatory standards as well as voluntary standards
20 pertaining to the planning and design of sustainable site development, energy
21 efficiency (in excess of the California Energy Code requirements), water
22 conservation, material conservation, and interior air quality.

23 ***Regional and Local***

24 **Placer County Air Pollution Control District**

25 PCAPCD attains and maintains air quality conditions in Placer County through a
26 comprehensive program of planning, regulation, enforcement, technical innovation,
27 and promotion of the understanding of air quality issues. PCAPCD inspects
28 stationary sources of air pollution, responds to citizen complaints, monitors ambient

1 air quality and meteorological conditions, and implements programs and
2 regulations required by the CAA, CAAA, and CCAA. The clean-air strategy of PCAPCD
3 includes preparing plans and programs for the attainment of ambient air quality
4 standards, adopting and enforcing rules and regulations concerning sources of air
5 pollution, and issuing permits for stationary sources of air pollution. The rules and
6 regulations include procedures and requirements to control the emission of
7 pollutants and to prevent adverse impacts.

8 All projects within PCAPCD's jurisdictional area are subject to PCAPCD rules and
9 regulations in effect at the time of construction. Specific PCAPCD rules that could be
10 applicable to projects implemented under the General Plan Update may include but
11 are not limited to the following:

- 12 > Rule 202: Visible Emissions. A person shall not discharge into the atmosphere
13 from any single source of emissions whatsoever any air contaminant for a
14 period or periods aggregating more than three minutes in any one hour
15 which is as dark or darker in shade as that designated as number 1 on the
16 Ringelmann Chart, as published by the U.S. Bureau of Mines.
- 17 > Rule 205: Nuisance. A developer and proposed project cannot emit any
18 quantities of air contaminants or other materials that would cause injury,
19 detriment, nuisance, or annoyance to any considerable number of persons
20 or the public; or that would endanger the comfort, repose, health, or safety
21 of any persons or the public; or that would cause or have natural tendency to
22 cause injury or damage to business or property.
- 23 > Rule 217: Cutback and Emulsified Asphalt Paving Materials. The developer or
24 contractor is required to use asphalt paving materials that comply with the
25 VOC content limits specified in the rule.
- 26 > Rule 218: Architectural Coatings. The developer or contractor is required to
27 use coatings that comply with the content limits for VOCs specified in the
28 rule.
- 29 > Rule 225: Wood Burning Appliances. No person shall sell or supply new wood
30 burning appliances unless it is an EPA phase II Certified wood burning
31 appliance, pellet-fueled wood burning heater, masonry heater, or
32 determined to meet the EPA standard for PM emissions standards.

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- 1 > Rule 228: Fugitive Dust. The developer or contractor is required to control
2 dust emissions from earthmoving activities or any other construction activity
3 to prevent airborne dust from leaving the project site.
- 4 > Rule 246: Natural Gas-Fired Water Heaters. A person shall not distribute,
5 offer for sale, sell, or install, any natural gas-fired water heater within the
6 District, unless it is a natural gas-fired water heater that emits less than or
7 equal to 40 nanograms of nitrogen oxides [calculated as NO₂] per joule (93
8 pounds per billion British thermal unit [BTU]) of heat output; and is certified
9 in accordance with Section 402 of Rule 246 or it is a mobile home natural gas-
10 fired water heater that emits less than or equal to 50 nanograms of nitrogen
11 oxides [calculated as NO₂] per joule (116 pounds per billion BTU) of heat
12 output; and is certified in accordance with Section 402 of Rule 246.
- 13 > Rule 247: Natural Gas-fired Water Heaters, Small Boilers, and Process
14 Heaters. If a proposed project would install natural gas-fired units (i.e.,
15 boilers, steam generators, and process heaters) with a rated heat input
16 capacity greater than or equal to 75,000 BTU [British thermal units] and less
17 than 5 million Btu per hour, the unit is required to comply with the NO_x and
18 CO emissions standards.
- 19 > Rule 305: Residential Allowable Burning. Except as provided in Regulation 3,
20 no person shall use an open outdoor fire (including the use of a burn barrel)
21 for the purposes of disposal or burning of any disallowed combustibles. Only
22 allowable combustibles, originating at a residence, and free of disallowed
23 combustibles, and reasonably free from dirt, soil, and visible surface
24 moisture, may be burned in an open outdoor burn pile. Burning in a burn
25 barrel is prohibited.
- 26 > Rule 501: General Permit Requirements. To provide an orderly procedure for
27 the review of new sources of air pollution and modification and operation of
28 existing sources through the issuance of permits. Any project that includes
29 the use of equipment capable of releasing emissions to the atmosphere may
30 be required to obtain permit(s) from PCAPCD before equipment operation.
- 31 > Rule 507: Federal Operating Permit Program. Stationary sources subject to
32 Rule 507 include major stationary sources, acid rain units subject to Title IV of

1 the CAA, solid waste incinerators subject to Section 111 or 129 of the CAA,
2 and any other stationary sources specifically designated by rule of the EPA.

3 PCAPCD has also produced a guidebook called the CEQA Air Quality Handbook
4 (PCAPCD Handbook), which contains guidance for analyzing construction and
5 operational emissions (PCAPCD 2017). The PCAPCD Handbook also includes a list of
6 analysis expectations and methodologies for CEQA analyses. On October 13, 2016,
7 the PCAPCD Board of Directors adopted the Review of Land Use Projects under
8 CEQA Policy, which includes recommendations for thresholds of significance for
9 criteria air pollutant emissions. In developing the thresholds, PCAPCD took into
10 account health-based air quality standards and the strategies to attain air quality
11 standards, historical CEQA project review data in Placer County, and the geographic
12 and land use features of Placer County.

13 Because portions of Placer County do not attain the federal ozone and PM air
14 quality standards, PCAPCD is responsible for working with the other air districts
15 within the Sacramento Region to develop applicable air quality plans. As part of the
16 Sacramento Federal Nonattainment Area for ozone, and in accordance with
17 requirements under the Clean Air Act (CAA), PCAPCD worked with the other local air
18 districts within the Sacramento area to develop a regional air quality management
19 plan to describe and demonstrate how Placer County, as well as the Sacramento
20 nonattainment area, is meeting requirements under the federal CAA in
21 demonstrating reasonable further progress and attainment of the NAAQS for ozone
22 (PCAPCD 2019). PCAPCD held a public hearing to consider, and ultimately adopted,
23 the 2017 Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further
24 Progress Plan (Ozone Attainment and Progress Plan). The Ozone Attainment and
25 Progress Plan documents how the region Some elements of the Ozone Attainment
26 and Progress Plan were updated in 2018 and included in the 2018 Updates to the
27 California State Implementation Plan, which updated SIP elements for
28 nonattainment areas throughout the state, as needed. These updates were adopted
29 by ARB in October 2018. The Ozone Attainment and Progress Plan is the currently
30 adopted and applicable air quality plan for the region and, therefore, PCAPCD is
31 required to comply with and implement this plan.

32 Similarly, PCAPCD also adopted the 2013 PM_{2.5} Implementation and Maintenance
33 Plan and Redesignation Request for Sacramento PM_{2.5} Nonattainment Area (PM_{2.5}

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1 Maintenance Plan and Redesignation Request) to address how the region attained
2 and would continue to attain the 24-hour PM_{2.5} NAAQS. In 2017, EPA found that the
3 area attained the 2006 24-hour PM_{2.5} NAAQS by the attainment date of December
4 31, 2015. The PM_{2.5} Maintenance Plan and Redesignation Request will be updated
5 and submitted in the future based on the clean data finding made by the EPA.

6 In compliance with the requirements set forth in the CCAA, which specifically
7 addressed the non-attainment status for ozone, CO, PM_{2.5} and PM₁₀, PCAPCD
8 coordinated with the air quality management districts and air pollution control
9 districts of El Dorado, Sacramento, Solano, Sutter, and Yolo counties to prepare and
10 submit the 1991 Air Quality Attainment Plan (AQAP). The CCAA also requires a
11 triennial assessment of the extent of air quality improvements and emission
12 reductions achieved through the use of control measures. In accordance with this
13 requirement, PCAPCD has prepared several triennial progress reports that build
14 upon the AQAP. The most recently adopted report is the 2018 Triennial Progress
15 Report for the 2015-2017 period.

16 **Local and Regional Transportation Planning**

17 Because transportation is one of the most substantial emissions sectors, there is a
18 critical nexus between transportation planning and local and regional air quality.
19 Effective coordination with and implementation of the following regional
20 transportation plans could serve to reduce mobile source emissions within the
21 Planning Area:

22 > Placer County Regional Transportation Plan 2036: This plan includes the
23 *Integrated Land Use, Air Quality & Transportation* section and *Air Quality, Global*
24 *Warming, Climate Change & Greenhouse Gas Element*. An effort is underway to
25 update this plan for the 2040 horizon year. Placer County's Regional
26 Transportation Plan is integrated with the Sacramento Area Council of
27 Government's (SACOG's) regional planning processes through the
28 Metropolitan Transportation Plan/Sustainable Communities Strategy. Placer
29 County Transportation Planning Agency works closely with SACOG and
30 PCAPCD to assess the impact of all transportation projects on air quality in
31 the region.

- 1 > Town of Loomis Trails Master Plan: This plan defines a vision for a trail
2 system that includes opportunities for pedestrians, bicyclists and
3 equestrians. This plan can serve as a guide in coordination with the General
4 Plan Update to enhances both recreational and commuter transportation
5 options, and reduce the reliance upon automobiles.
- 6 > Town of Loomis Bicycle Transportation Plan: This is a master plan document,
7 that, like a general plan document, provides guidance for the Town as the
8 ability to build new bike facilities become available. Integrated bicycle
9 transportation planning can reduce congestion, increase circulation, and
10 improve air quality.
- 11 > Placer County Regional Bikeway Plan: This plan is specific to the
12 unincorporated portion of Placer County and does not propose new bikeway
13 facilities within the Town of Loomis. However, planning of facilities and
14 infrastructure within the Planning Area to integrate with this regional plan
15 can provide new links to key destinations and communities through
16 alternative transportation modes, thereby reducing regional VMT and
17 mobile-source emissions, as well as increasing accessibility via active
18 transportation modes to the Town of Loomis from surrounding communities.

19 **GREENHOUSE GAS EMISSIONS**

20 This section provides background information about greenhouse gas (GHG)
21 emissions and climate change. Emissions of GHGs have the potential to adversely
22 affect the environment because such emissions contribute cumulatively to global
23 climate change. Unlike criteria air pollutants and toxic air contaminants that tend to
24 have more localized or regional impacts, GHG emissions tend to disperse more
25 broadly and are more of a global concern because of their relatively longer
26 atmospheric lifetimes compared to air pollutant emissions. Similarly, climate change
27 is a global phenomenon; however, the impacts of climate change are experienced
28 locally and vary by location.

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1 **Major Findings**

2 The following provides a summary of key findings that will be taken into account for
3 the General Plan update. The technical background on each topic is further
4 discussed in the sections to follow.

- 5 > Effects of climate change that are particularly relevant to the Town of Loomis
6 and surrounding region include increased average and extreme
7 temperatures and shifting precipitation patterns that will likely result in the
8 regions being increasingly prone to extremes like megadroughts, flooding
9 and large wildfires, and affect water and energy availability, agricultural
10 systems, plants and wildlife and public health.
- 11 > While GHG emissions reductions at the local scale may seem insignificant
12 relative to the global scale of emissions, actions to reduce GHG emissions
13 have positive co-benefits, such as for the local economy, public health, and
14 household and local business energy and transportation costs.
- 15 > State legislation on the topics of climate change and GHG emissions has
16 changed substantially since the Town of Loomis 2020 General Plan was
17 adopted in 2001. California has established several statewide GHG targets
18 through legislative action that can help to inform local GHG target selection.
19 State agencies, including the California Air Resources Board (CARB) and the
20 Governor’s Office of Planning and Research (OPR), have also issued guidance
21 to local governments on this topic. Local governments have unique influence
22 and exclusive authority over significant GHG emission sources.
- 23 > Placer County has taken steps to evaluate GHG emissions sources from
24 County operations and the unincorporated County, and adopted the Placer
25 County Sustainability Plan in January 2020 that lays a framework for
26 programs and policies that will be undertaken to achieve the most significant
27 GHG emission reductions in the unincorporated County. Coordination
28 between local policies and actions under the Town of Loomis General Plan
29 with County actions may provide efficiencies and mutual benefit.
- 30 > The California Environmental Quality Act (CEQA) generally requires state and
31 local government agencies to inform decision makers and the public about
32 the potential environmental impacts of proposed projects, and to reduce

1 those environmental impacts to the extent feasible. The evaluation of GHG
2 emissions as part of the CEQA process was recognized by the passage of
3 Senate Bill 97 in 2007, and the guidance was further refined by amendments
4 to the CEQA Guidelines in 2018 (Section 15064.4) that clarified several points,
5 including that lead agencies must analyze the GHG emissions of proposed
6 projects and the focus of the analysis should be on the project's effect on
7 climate change, rather than simply the quantity of emissions. The
8 amendments also held that a project's incremental contribution may be
9 cumulative considerable even if it appears relatively small compared to
10 statewide, national, or global emissions levels.

11 **Overview of Greenhouse Gases**

12 Certain gases in the earth's atmosphere, classified as GHGs, play a critical role in
13 determining the earth's surface temperature. Solar radiation enters the earth's
14 atmosphere from space. A portion of the radiation is absorbed by the earth's
15 surface, and a smaller portion of this radiation is reflected toward space through the
16 atmosphere. However, infrared radiation is selectively absorbed by GHGs in the
17 atmosphere. As a result, infrared radiation released from the earth that otherwise
18 would have escaped back into space is instead "trapped," resulting in a warming of
19 the atmosphere. This phenomenon, known as the "greenhouse effect," is
20 responsible for maintaining a habitable climate on Earth. Anthropogenic (e.g.,
21 human caused) emissions of these GHGs lead to atmospheric levels in excess of
22 natural ambient concentrations and have the potential to adversely affect the
23 environment because such emissions contribute, on a cumulative basis, to global
24 climate change.

25 The Intergovernmental Panel on Climate Change (IPCC) concluded that variations in
26 natural phenomena, such as solar radiation and volcanoes, produced most of the
27 warming of the earth from pre-industrial times to 1950. Some variations in natural
28 phenomena also had a small cooling effect. From 1950 to the present, increasing
29 GHG concentrations resulting from human activity, such as fossil fuel burning and
30 deforestation, have been responsible for most of the observed temperature
31 increase (IPCC 2015).

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1 During the same period when increased global warming has occurred, many other
2 changes have occurred in other natural systems. Sea levels have risen; precipitation
3 patterns throughout the world have shifted, with some areas becoming wetter and
4 others drier; snowlines have increased elevation, resulting in changes to the
5 snowpack, runoff, and water storage; and numerous other conditions have been
6 observed. Although it is difficult to prove a definitive cause-and-effect relationship
7 between global warming and other observed changes to natural systems, there is a
8 high level of confidence in the scientific community that these changes are a direct
9 result of increased global temperatures caused by the increased presence of GHGs
10 in the atmosphere (IPCC 2018).

11 The following are the principal GHG pollutants that contribute to climate change and
12 their primary emission sources:

- 13 > Carbon Dioxide: Natural sources of CO₂ include decomposition of dead
14 organic matter; respiration of bacteria, plants, animals, and fungus; and
15 evaporation from oceans. Anthropogenic (human) sources include burning of
16 coal, oil, natural gas, and wood.
- 17 > Methane: CH₄ is emitted during the production and transport of coal, natural
18 gas, and oil. Methane emissions also result from livestock and other
19 agricultural practices and by the decay of organic waste in municipal solid
20 waste landfills.
- 21 > Nitrous Oxide: Primary human-related sources of N₂O are agricultural soil
22 management, sewage treatment, mobile and stationary combustion of fossil
23 fuel, adipic acid production, and nitric acid production. N₂O is also produced
24 naturally from a wide variety of biological sources in soil and water,
25 particularly microbial action in wet tropical forests.
- 26 > Fluorinated gases: These gases are typically emitted in smaller quantities, but
27 because they are potent GHGs, they are sometimes called High Global
28 Warming Potential (High GWP) gases. These High GWP gases include:
- 29 > Chlorofluorocarbons (CFC)s: These GHGs are used for refrigeration, air
30 conditioning, packaging, insulation, solvents, or aerosol propellants.

- 1 > Perfluorinated Chemicals (PFCs): PFCs are emitted as by-products of
2 industrial processes and are also used in manufacturing.
- 3 > Sulfur hexafluoride (SF6): This is a strong GHG used primarily as an insulator
4 in electrical transmission and distribution systems.
- 5 > Hydrochlorofluorocarbons (HCFCs): These have been introduced as
6 temporary replacements for CFCs and are also GHGs.
- 7 > Hydrofluorocarbons (HFCs): These were introduced as alternatives to ozone-
8 depleting substances in serving many industrial, commercial, and personal
9 needs. HFCs are GHGs emitted as by-products of industrial processes and are
10 also used in manufacturing.

11 GHGs are not monitored at local air pollution monitoring stations and do not represent
12 a direct impact to human health. Rather, GHGs generated locally contribute to global
13 concentrations of GHGs, which result in changes to the climate and environment.

14 **Greenhouse Gas Emissions Inventories**

15 GHGs are present in the atmosphere naturally, are released by natural and
16 anthropogenic (human-caused) sources and are formed from secondary reactions
17 taking place in the atmosphere. Natural sources of GHGs include the respiration of
18 humans, animals, and plants; decomposition of organic matter; volcanic activity; and
19 evaporation from the oceans. Anthropogenic sources include the combustion of
20 fossil fuels by stationary and mobile sources, waste treatment, and agricultural
21 processes.

22 Methods have been set forth to describe emissions of GHGs in terms of a single gas
23 to simplify reporting and analysis. The most commonly accepted method to
24 compare GHG emissions is the global warming potential (GWP) methodology
25 defined in IPCC reference documents. GWP is a concept developed to compare the
26 ability of each GHG to trap heat in the atmosphere relative to another gas. GWP is
27 based on several factors, including the relative effectiveness of a gas to absorb
28 infrared radiation and the length of time the gas remains in the atmosphere
29 (“atmospheric lifetime”). IPCC defines the GWP of various GHG emissions on a
30 normalized scale that recasts all GHG emissions in terms of metric tons of CO₂

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1 equivalents (MT CO₂e), which compares the gas in question to that of the same mass
2 of CO₂ (CO₂ has a GWP of 1, by definition).

3 In order to better understand the sources and magnitudes of GHG emissions, public
4 and private entities at the federal, state, and local level are developing GHG
5 inventories. The Assembly Bill (AB) 32 Scoping Plan (the Scoping Plan) identifies the
6 primary GHG emission “sectors,” or types of activities, that account for the majority
7 of GHG emissions generated within California. A brief description of each of the
8 GHG emission sectors is provided below.

9 > Transportation: GHG emissions associated with on-road motor vehicles, off-
10 road equipment, recreational vehicles, aviation, ships, and rail.
11 Transportation is the largest emissions sector for the state as a whole (and
12 for the county and for Loomis, as well).

13 > Electricity: GHG emissions associated with use and production of electrical
14 energy. Approximately 25 percent of electricity consumed in California is
15 imported; thus, GHG emissions associated with out-of-state electricity
16 production are also included as part of this sector.

17 > Industry: GHG emissions associated with industrial land uses (e.g.,
18 manufacturing plants and refineries). Industrial sources are predominantly
19 composed of stationary sources (e.g., boilers and engines) associated with
20 process emissions.

21 > Commercial and Residential: Commercial and residential GHG emission
22 sources include area sources such as landscape maintenance equipment,
23 fireplaces, and natural gas consumption for space and water heating.

24 > Agriculture: GHG emissions associated with agricultural processes.
25 Agricultural sources of GHG emissions include off-road farm equipment,
26 irrigation pumps, residue burning, livestock, and fertilizer volatilization.

27 > High Global Warming Potential: This sector represents the generation of high
28 GWP GHGs. Examples of high GWP GHG sources include refrigerants (e.g.,
29 hydrofluorocarbons [HFCs], chlorofluorocarbons [CFCs]) and electrical
30 insulation (e.g., sulfur hexafluoride). Although these GHGs are typically

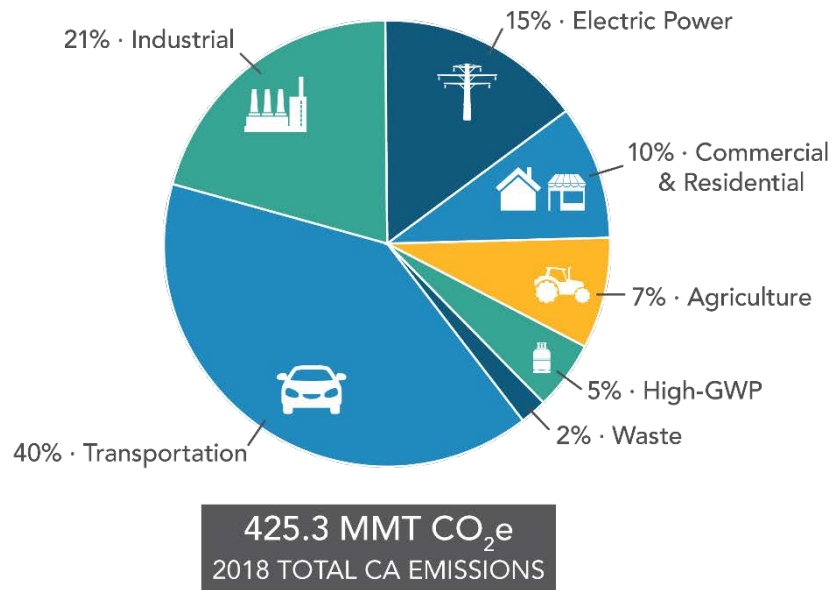
1 generated in much smaller quantities than CO₂, their high GWP results in
 2 considerable CO₂e.

3 > Recycling and Waste: GHG emissions associated with waste management
 4 facilities and landfills.

5 CARB prepares an annual, statewide GHG emissions inventory, including an analysis
 6 of emissions by sector. As shown in Figure 3-4, California produced 425.3 million MT
 7 CO₂e in 2018 (the latest available full year of reporting). Combustion of fossil fuel in
 8 the transportation sector was the single largest source of California's GHG emissions
 9 in 2018, accounting for 41 percent of total GHG emissions. Transportation was
 10 followed by industry, which accounted for 24 percent, and then the electricity sector
 11 (including in-state and out-of-state sources) accounted for 9 percent of total GHG
 12 emissions (CARB 2020).

13 **Figure 3-4: 2018 California GHG Emissions Inventory by Sector**

14



15
 16
 17

Source: CARB 2020

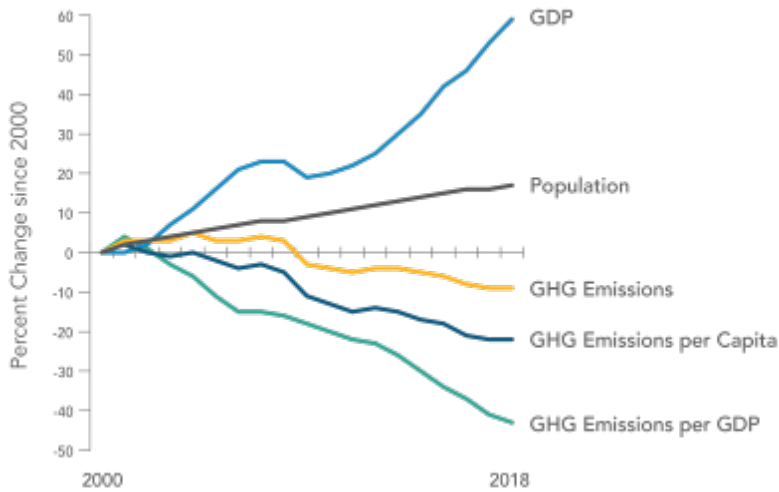
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1 California has implemented several programs and regulatory measures to reduce
2 GHG emissions. Figure 3-5 demonstrates California’s progress in achieving statewide
3 GHG emissions reduction targets. Since 2007, California’s GHG emissions have been
4 declining; GHG emissions have continued to decline even as population and gross
5 domestic product have increased.

6 Placer County conducted a baseline (2005) and updated (2015) emissions inventory
7 for County government operations and emissions associated with the
8 unincorporated county. In 2005, unincorporated Placer County’s emissions were
9 1,440,910 MTCO₂e in total; transportation was the largest source of emissions
10 followed by residential energy use and agricultural and forest management,
11 accounting for approximately 36 percent, 24 percent, and 19 percent, respectively,
12 of the total. County operations resulted in 40,520 MTCO₂e; solid waste was the
13 largest source, generating 39 percent of the total, followed by employee commute
14 and travel, buildings and facilities, and the County’s vehicle fleet, accounting for 22
15 percent, 17 percent, and 13 percent, respectively. Community-wide emissions in
16 2015 totaled 1,203,260 MTCO₂e, a 16-percent decrease from 2005 levels, although
17 the relative contribution of the sectors remained similar. County operations
18 emissions increased to 49,390 MTCO₂e in 2015 (an approximately 22 percent
19 increase), but again the relative contribution of each sector was similar to the 2005
20 findings. The comparison between 2005 and 2015 emissions for the unincorporated
21 county and County operations are shown in Figure 3-6 3-3 and Figure 3-7.

22

1 **Figure 3-5: Trends in California GHG Emissions (Years 2000 to 2018)**



2
3 Source: CARB 2020

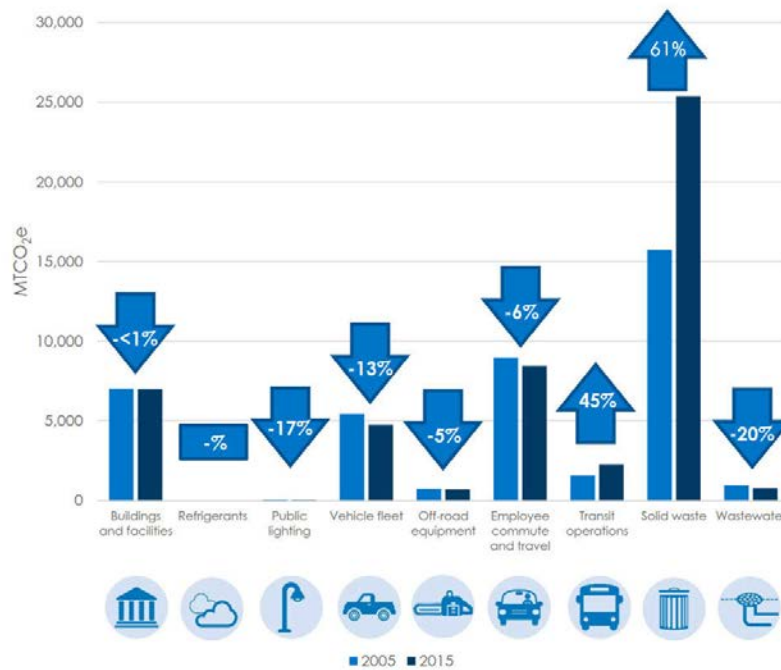
4
5 **Figure 3-6: Placer County Unincorporated Community-Wide GHG Emissions by Sector (Years 2005 vs 2015)**
6



7
8 Source: Placer County 2020
9

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1 **Figure 3-7: Placer County Government Operations GHG Emissions by Sector (Years 2005**
 2 **vs 2015)**



3
 4 Source: Placer County 2020

5
 6 In 2012, the Sierra Business Council published a community-wide GHG emissions
 7 inventory in collaboration with the Town of Loomis. The inventory (Sierra Business
 8 Council 2012) estimated emissions using the baseline year of 2005 using the
 9 International Local Government GHG Emissions Analysis Protocol. The inventory,
 10 summarized in Table 3-9, identified GHG emissions from multiple sectors:
 11 residential, commercial, industrial, vehicle transportation, solid waste, and
 12 wastewater. According to this estimate, in 2005 the Town of Loomis produced
 13 approximately 56,000 MTCO₂e, for a per-capita rate of approximately 8.8 MTCO₂e
 14 per resident. As with the state as a whole, vehicle transportation was the largest
 15 source of GHG emissions, contributing more than 61 percent of the total.

Table 3-9: Town of Loomis 2005 GHG Emissions Inventory (Community-wide)		
Sector	Emissions (MT CO₂e)	Percent of Inventory
Residential	11,619	20.7
Commercial and Industrial	8,488	15.2
Vehicle transportation	34,238	61.1
Waste and wastewater	1,696	3.0
Total Emissions in Tow of Loomis	56,041	100.0

Source: Sierra Business Council 2012

Notes:

CO₂e = carbon dioxide equivalent; MT = metric tons

1

2 Since the Town of Loomis' 2005 GHG emissions inventory, statewide actions have
 3 continued to be implemented to reduce GHG emissions, including a cleaner-burning
 4 vehicle fleet throughout California and increased requirements for reducing the
 5 carbon intensity of electricity. As a part of the Town of Loomis 2005 GHG Emissions
 6 Inventory, next steps in sustainability and climate change mitigation activities were
 7 identified. These actions include:

8

> Leading by example through actions to reduce government operations
 9 emissions.

10

o E.g., installing energy-efficient light bulbs and establishing carpool
 11 programs.

12

> Establishing robust community-wide recycling and waste reduction
 13 programs.

14

> Collaborating with Placer Sustain, a Placer County sustainability non-profit
 15 organization.

16

As shown above, vehicle transportation is a substantial driver of GHG emissions at
 17 both a state and regional level. There is a direct link between vehicle miles traveled
 18 (VMT) and mobile-source GHG emissions. According to the Placer County
 19 Transportation Planning Agency 2036 Regional Transportation Plan (2016), Placer
 20 County VMT was approximately 9,770,592 miles per day in 2012, projected to

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1 increase approximately 40 percent by 2036. However, the VMT per capita for the
2 county was estimated to be 28.16 miles per day per capita in 2012, and projected to
3 decrease 4.5 percent by 2036 through the integrated land use plans of Placer
4 County jurisdictions and transportation projects contained in the 2036 Regional
5 Transportation Plan (PCTPA 2016).

6 **Effects of Climate Change**

7 Climate change is caused by an increase in levels of GHG emissions in the
8 atmosphere. Despite the level of action taken on the part of the world's
9 governments to reduce GHG emissions, the earth is already committed to a certain
10 level of climate change caused by GHG emissions that occurred over the last 150
11 years, and some climate change impacts can be considered foreseeable. Although
12 climate change is a global phenomenon, the effects vary by location and can be
13 experienced on a regional and local scale.

14 As noted in the Sacramento Valley Regional Report of the California's Fourth Climate
15 Change Assessment, in which the western portion of Placer County is a part of the
16 Sacramento Valley region, climate change is expected to make the Sacramento
17 region hotter, drier, and increasingly prone to extremes like megadroughts, flooding,
18 and large wildfires. These changing conditions are likely to affect water and energy
19 availability, agricultural systems, plants and wildlife, public health, housing, and
20 quality of life.

21 In Placer County, potential hazards (or exposures) related to climate change have
22 also been analyzed as part of a vulnerability assessment for the County. Findings
23 indicated that the most prominent localized effects of climate change include
24 increased risks associated with agriculture and forestry pests and disease,
25 avalanche (specific to higher elevation areas in the northeastern portion of the
26 county), drought, extreme heat, flooding, fog, human health hazards, landslides,
27 severe winter weather, and wildfire.

28 The warmer temperatures brought on by climate change are likely to cause an
29 increase in extreme heat events in all parts of California, including Placer County
30 and the Sacramento Valley. Depending on emissions levels and location, the number
31 of extreme heat days is expected to increase from a historical average of 4 to

1 between 22 and 32 days per year by the middle of the century, and between 33 and
2 62 days per year by the end of the century. Placer County is also expected to see an
3 increase in average daily high temperatures. More frequent and intense heat waves
4 in the Sacramento Valley, with fewer cooling degree days, place stress on certain
5 crops, optimal human health conditions, and the longevity of transportation and
6 electrical infrastructure.

7 Although droughts are a regular feature of California's climate, scientists expect that
8 climate change will lead to more frequent and more intense droughts statewide.
9 Overall, precipitation levels are expected to stay similar, and may even increase in
10 some places. However, the state's current data says that there will be more years
11 with extreme levels of precipitation, both high and low, which is expected to cause
12 more droughts that last longer and are more intense, compared to historical norms.
13 To exacerbate this changing condition, an increase in the global average
14 temperature is expected to result in a decreased volume of precipitation falling as
15 snow in California and an overall reduction in snowpack in the Sierra Nevada.
16 Snowpack in the Sierra Nevada provides both water supply (runoff from melting)
17 and storage (within the snowpack before melting), which is a major source of supply
18 for the state, including the Town of Loomis. According to California's Fourth Climate
19 Change Assessment, the Northern Sierras – a primary water source for the
20 Sacramento Valley – are expected to have almost no annual snowpack by the end of
21 the 21st century, while the Southern Sierras, which have higher elevations and
22 therefore less impacted by rising temperatures, are expected to have total snow
23 water decline by about 40 percent by the end of the century (CEC, et. at. 2018).
24 Although current forecasts are uncertain, this may make water levels particularly
25 low in late summer and early fall, which are often the hottest parts of the year in the
26 region.

27 A flood can be caused by heavy rainfall, long periods of moderate rainfall, and rapid
28 melting of accumulated snow. As noted above, more extreme precipitate events are
29 anticipated as a result of climate change; these events are expected to increase the
30 risk of flooding and are expected to occur more often throughout the Sacramento
31 Valley and Placer County. In addition, the increased drought conditions may result in
32 less permeable soils as they dry out and harden, and therefore increased runoff of
33 precipitation along the soil rather than being absorbed into the ground. New
34 extremes will challenge water storage and food control systems which were

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1 designed for the historical climate patterns. In particular, higher extreme rainfall will
2 bring more surface runoff and less groundwater recharge.

3 The forests, farms, and ranches of Placer County all face risk from assorted pests
4 and diseases that may affect crop plants, trees, and livestock. One of the most direct
5 effects of climate change is that average temperatures will increase, and this has a
6 bearing on many pests and diseases. Many pests and organisms that carry diseases
7 are most active during warmer months, so the threat of infection or infestation can
8 be higher during this time of year. Temperatures are expected to get warmer earlier
9 in the year and remain warmer until later in the year due to climate change, creating
10 a wider window for active pests and diseases that impact agricultural production.

11 Placer County adopted the Placer County Sustainability Plan in January of 2020 that
12 serves as a road map outlining programs and policies that will be undertaken by the
13 community and the County to achieve the most significant GHG emission reductions
14 in the unincorporated county. While the Placer County Sustainability Plan does not
15 specifically address the Town of Loomis, the plan includes actions being taken to
16 promote sustainability and GHG emissions reductions in the region, several of which
17 are applicable to the Town of Loomis. Many of the regional emissions sources are
18 similar to those of the Town of Loomis, and many actions may also support
19 emissions reductions within the Town or demonstrate what programs are feasible
20 and applicable to a municipality like the Town of Loomis.

21 **Greenhouse Gas Emissions Regulatory Framework**

22 While many federal, State, regional, and local GHG-related plans, policies, and
23 regulations do not directly apply to the implementation of the Town's General Plan
24 Update, the information below is helpful for understanding the overall context for
25 GHG emissions impacts and strategies to reduce GHG emissions.

1 ***Federal***

2 **U.S. Environmental Protection Agency “Endangerment” and “Cause or Contribute”** 3 **Findings**

4 On December 7, 2009, the EPA Administrator signed two distinct findings regarding
5 GHGs under Section 202(a) of the CAA:

6 > Endangerment Finding: The current and projected concentrations of the six
7 key GHGs—CO₂, methane, nitrous oxide, hydrofluorocarbons, perfluorinated
8 chemicals, and sulfur hexafluoride—in the atmosphere threaten the public
9 health and welfare of current and future generations.

10 > Cause or Contribute Finding: The combined emissions of these GHGs from
11 new motor vehicles and new motor vehicle engines contribute to GHG
12 pollution, which threatens public health and welfare.

13 **Mandatory Greenhouse Gas Reporting Rule**

14 On September 22, 2009, EPA released its final Greenhouse Gas Reporting Rule
15 (Reporting Rule). The Reporting Rule is a response to the fiscal year 2008
16 Consolidated Appropriations Act (House of Representatives Bill 2764; Public Law
17 110-161), which required EPA to develop “...mandatory reporting of GHGs above
18 appropriate thresholds in all sectors of the economy....” The Reporting Rule applies
19 to most entities that emit 25,000 MT CO₂e or more per year. Since 2010, facility
20 owners have been required to submit an annual GHG emissions report with detailed
21 calculations of the facility’s GHG emissions. The Reporting Rule also mandates
22 compliance with recordkeeping and administrative requirements to enable EPA to
23 verify annual GHG emissions reports.

24 **Corporate Average Fuel Economy (CAFE) Standards and the Safer Affordable Fuel-** 25 **Efficient (SAFE) Vehicles Rule**

26 U.S. EPA and the National Highway Traffic Safety Administration (NHTSA)
27 implemented national GHG emission and fuel economy standards for model year
28 2012–2016 light-duty cars and trucks. The second phase of the standards includes
29 GHG and fuel economy standards for model years 2017–2025. The 2017–2025

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1 standards are anticipated to save approximately 4 billion barrels of oil and 2 billion
2 MT of GHG emissions. In 2025, if all standards are met through fuel efficiency
3 improvements, the average industry fleetwide fuel efficiency for light-duty cars and
4 trucks would be approximately 54.5 miles per gallon (EPA 2012). In 2018, the United
5 States Department of Transportation and EPA proposed to amend the existing CAFE
6 standards and establish new standards for model years 2021 through 2026. In 2019,
7 EPA and NHTSA published the “Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule
8 Part One: One National Program.” (84 Fed. Reg. 51,310 (Sept. 27, 2019.)) The One
9 National Program revokes California’s authority to set its own GHG emissions
10 standards and set zero-emission vehicle mandates in Part 2 of the regulations, if
11 implemented, would address fuel efficiency standards for light-duty vehicles model
12 years 2021 through 2026, have not been drafted as of the writing of this document.

13 Standards for light-duty cars and trucks, EPA and NHTSA have implemented Phase 1
14 of the Medium- and Heavy-Duty Vehicle GHG Emissions and Fuel Efficiency
15 Standards, which apply to model years 2014–2018. It is anticipated that medium-
16 and heavy-duty vehicles built to these standards from 2014–2018 will reduce CO₂
17 emissions by approximately 270 million MT over their lifetimes (EPA 2012). Phase 2
18 of these standards apply to model years 2021–2027 and would reduce GHG
19 emissions by 1 billion MT over the lifetimes of those vehicles (EPA 2015).

20 ***State***

21 The State’s legal framework for GHG emission reductions has come about through
22 Executive Orders, legislation, regulations, and court decisions. Legislation with
23 regard to climate change adaptation and resilience is also highlighted below.

24 **Statewide Emission Reduction Targets Pursuant to the California Global Warming** 25 **Solutions Act of 2006 (Assembly Bill [AB] 32 and Senate Bill [SB] 32, and** 26 **Executive Orders [EOs] S-3-05 and B-30-15)**

27 ***EO S-3-05 (2005) and AB 32 (2006)***

28 Issued by the Governor in recognition of California’s vulnerability to the effects of
29 climate change, EO S-3-05 established progressive GHG emission reduction targets
30 for the State, as follows:

- 1 > By 2010, reduce GHG emission to the year 2000 level;
- 2 > By 2020, reduce GHG emissions to the year 1990 level; and,
- 3 > By 2050, reduce GHG emissions to 80 percent below the 1990 level.

4 The California Global Warming Solutions Act of 2006, commonly known as AB 32,
5 further detailed and put into law the midterm GHG reduction target established in
6 EO S 3 05 to reduce statewide GHG emissions to 1990 levels by 2020 and created a
7 comprehensive, multi-year program to reduce GHG emissions in California. AB 32
8 also directed CARB to accomplish the following core tasks:

- 9 > Establish the statewide goal of reducing GHG emissions.
- 10 > Establish a mandatory reporting system to track and monitor emissions
11 levels.
- 12 > Develop various compliance options and enforcement mechanisms.

13 **EO B-30-15 (2014) and SB 32 (2016)**

14 EO B-30-15 established a statewide GHG reduction goal of 40 percent below 1990
15 levels by 2030. This emission reduction goal serves as an interim goal between the
16 AB 32 target to achieve 1990 emission levels by 2020 and the long-term goal set by
17 EO S-3-05 to reduce statewide emissions 80 percent below 1990 levels by 2050. In
18 addition, the executive order aligned California's 2030 GHG reduction goal with the
19 European Union's 2030 reduction target that was adopted in October 2014.

20 SB 32 signed into law the emissions goal of EO B-30-15, extending the provisions of
21 AB 32 from 2020 to 2030 with a new target of 40 percent below 1990 levels by 2030.

22 **EO B-55-18 (2018)**

23 EO B-55-18 acknowledges the environmental, community, and public health risks
24 posed by future climate change. It further recognizes the climate stabilization goal
25 adopted by 194 states and the European Union under the Paris Agreement. Based
26 on the worldwide scientific agreement that carbon neutrality must be achieved by
27 midcentury, EO B-55-18 establishes a new state goal to achieve carbon neutrality as
28 soon as possible and no later than 2045, and to achieve and maintain net negative

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1 emissions thereafter. The EO charges CARB with developing a framework for
2 implementing and tracking progress towards these goals. EO B-55-18 is only binding
3 on state agencies.

4 **California’s Climate Change Scoping Plan**

5 CARB adopted the Climate Change Scoping Plan (Scoping Plan) in December 2008,
6 which contains California’s primary strategies for achieving the GHG reductions
7 required by AB 32. The Scoping Plan encourages local governments to align land
8 use, transportation, and housing plans to minimize vehicle trips.

9 CARB is required to update the Scoping Plan at least once every five years to
10 evaluate progress and develop future inventories that may guide this process. The
11 First Update to the Climate Change Scoping Plan: Building on the Framework (2014
12 Scoping Plan Update) determined that the state was on schedule to achieve the
13 2020 target. However, an accelerated reduction in GHG emissions would be required
14 to achieve the EO S-3-05 emissions reduction target for 2050.

15 California’s 2017 Climate Change Scoping Plan: The Strategy for Achieving
16 California’s 2030 Greenhouse Gas Target (2017 Scoping Plan Update) was driven by
17 the 2030 target (pursuant to SB 32). The 2017 Scoping Plan Update established a
18 plan of action, consisting of a variety of strategies to be implemented, rather than a
19 single solution, to achieve the SB 32 emissions target.

20 **Sustainable Communities and Climate Protection Act of 2008 (SB 375)**

21 The Sustainable Communities and Climate Protection Act of 2008 (SB 375) built
22 upon the existing framework of regional planning. In 2010, CARB adopted regional
23 GHG targets for passenger vehicles and light trucks for 2020 and 2035 for the 18
24 metropolitan planning organizations (MPOs) in California. In 2018, CARB updated
25 these targets. Under this legislation, each MPO is required to incorporate these GHG
26 emissions targets into the regional transportation planning process and adopt
27 either a “sustainable communities strategy” or an “alternative planning strategy” as
28 part of its regional transportation plan to identify land use, housing, and
29 transportation strategies that will achieve the regional GHG reduction targets.

1 **Renewables Portfolio Standard**

2 SB 1078, SB 107, EO S 14 08, and SB X1-2 have established increasingly stringent
3 renewable portfolio standard (RPS) requirements for California’s utility companies.
4 RPS-eligible energy sources include wind, solar, geothermal, biomass, and small-
5 scale hydro projects.

6 SB 1078 required investor-owned utilities to provide at least 20% of their electricity
7 from renewable resources by 2020.

8 SB 107 accelerated the SB 1078 timeframe to take effect in 2010.

9 EO-S-14-08, codified by SB X1-2, increased the RPS further to 33% by 2020.

10 SB 350 increased the RPS to 50% by 2030.

11 SB 100 increased the RPS to 60% by 2030 and required the State’s electricity to come
12 from carbon-free resources by 2045.

13 These requirements reduce the carbon content of electricity generation and reduce
14 GHG emissions associated with both existing and new development.

15 **California Code of Regulations, Title 20 and 24**

16 New buildings constructed in California must comply with the standards contained
17 in California Code of Regulations (CCR) Title 20, Energy Building Regulations, and
18 Title 24, Energy Conservation Standards.

19 Title 20 standards range from power plant procedures and siting to energy efficiency
20 standards for appliances, ensuring reliable energy sources are provided and
21 diversified through energy efficiency and renewable energy resources. California’s
22 2009 Appliance Efficiency Regulations (20 CCR 1601–1608) were adopted by the CEC
23 on December 3, 2008, and approved by the California Office of Administrative Law
24 on July 10, 2009. The regulations include standards for both federally regulated
25 appliances and non-federally regulated appliances.

26 Title 24 requires the design of building shells and building components to conserve
27 energy. The Energy Conservation Standards for new residential and nonresidential

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1 buildings were established by the CEC in June 1977 June 1977 and were most
2 recently revised in 2019 (Title 24, Part 6 of the California Code of Regulations [Title
3 24]). Title 24 governs energy consumed by commercial and residential buildings in
4 California. This includes the HVAC system; water heating; and some fixed lighting.
5 Non-building energy use, or “plug-in” energy use, is not covered by Title 24. The
6 standards are updated periodically to allow for consideration and possible
7 incorporation of new energy efficiency technologies and methods. California’s
8 Building Energy Efficiency Standards are updated on an approximate three-year
9 cycle. The most recent update was in 2019 and took effect July 1, 2020. One of the
10 improvements included within the 2019 Building Energy Efficiency Standards is the
11 requirements that certain residential developments, including some single-family
12 and low-rise residential development, include on-site solar energy systems capable
13 of producing 100 percent of the electricity demand of the residences. With
14 implementation of solar photovoltaic systems with new residential development,
15 homes built under the 2019 standards will use approximately 53 percent less energy
16 than those under the 2016 standards. Nonresidential buildings are anticipated to
17 consume 30 percent less energy as compared to nonresidential buildings
18 constructed under the 2016 California Energy Code, primarily through prescriptive
19 requirements for high-efficiency lighting (CEC 2018). The Energy Code is enforced
20 through the local plan check and building permit process. Local government
21 agencies may adopt and enforce additional energy standards for new buildings as
22 reasonably necessary related to local climatologic, geologic, or topographic
23 conditions, provided that these standards exceed those provided in the California
24 Energy Code.

25 CALGreen (24 CCR Part 11) is intended to enhance the design and construction of
26 buildings through the use of building concepts that benefit the environment and
27 public health and encourage sustainability in construction and operations of a
28 building. The provisions of the code apply to the planning, design, construction, use,
29 and occupancy of all newly constructed buildings and structures throughout
30 California. Some key provisions of the code include, but are not limited to,
31 requirements related to the installation of electric vehicle charging infrastructure in
32 residential and nonresidential developments, establishment of maximum fixture
33 water use rates to reduce indoor water use consumption, diversion of 65 percent of
34 construction and demolition waste from landfills, and mandatory use of low-
35 pollutant emitting interior finish materials such as paints, carpet, and flooring.

1 **Executive Order B 18 12**

2 Executive Order B 18 12 orders all new State buildings and major renovations
3 beginning design after 2025 be constructed as Zero Net Energy facilities. The
4 Executive Order sets an interim target for 50 percent of new facilities beginning
5 design after 2020 to be Zero Net Energy. It directs State agencies to take measures
6 toward achieving Zero Net Energy for 50 percent of the square footage of existing
7 State-owned building area by 2025.

8 **Senate Bill 379**

9 Senate Bill 379 requires that all cities and counties within the California address
10 climate change adaptation and resilience within the safety element of their general
11 plans. The bill requires a review and update of general plans that includes a
12 vulnerability assessment that identifies the risks climate change poses to the local
13 jurisdiction and the geographic areas at risk from climate change, a set of
14 adaptation and resilience goals, policies and objectives based on the findings of the
15 vulnerability assessment, and a set of implementation strategies.

16 ***Regional and Local***

17 **Sacramento Area Council of Governments**

18 The Sacramento Area Council of Governments (SACOG). SACOG is designated by the
19 federal government as the Metropolitan Planning Organization for the Sacramento
20 region, maintaining a regional transportation plan in coordination with each of the
21 local 28 member cities and counties, including Placer County. SACOG plays a central
22 role in transportation infrastructure planning for the region, while also serving as a
23 forum for the study, planning and resolution of other planning issues facing the
24 local member governments. The most recent Metropolitan Transportation
25 Plan/Sustainable Communities Strategy (MTP/SCS) for the SACOG region, the 2020
26 MTP/SCS, was adopted in November 2019. The 2020 MTP/SCS lays out a plan that
27 links land use, air quality, and transportation needs. Under SB 375, the proposed
28 MTP/SCS is subject to review and approval by CARB. Specifically, the SCS component
29 of the regional plan will be reviewed by CARB to determine whether the adopted
30 SCS, if implemented, would meet the region's 2035 19 percent per-capita passenger

NATURAL RESOURCES

1 vehicle greenhouse gas reduction target. As shown in the 2020 MTP/SCS and EIR, the
2 region is making progress in VMT reductions and is making significant strides in the
3 development of new initiatives, projects, and programs in the 2020 MTP/SCS.

4 **Placer County Transportation Planning Agency**

5 Placer and El Dorado counties each have their own state designation as Regional
6 Transportation Planning Agencies (RTPAs) that are responsible for developing their
7 own transportation plans. SACOG, as the RTPA for Sacramento, Sutter, Yolo, and
8 Yuba counties, works in coordination with Placer County Transportation Planning
9 Agency to ensure consistency between the county-specific plan and the broader
10 region-wide plan. Since 1991, Placer County has been eligible to receive an
11 apportionment of Congestion Mitigation and Air Quality funds from the federal
12 government for projects designed to reduce congestion and improve air quality.
13 Since that time, PCTPA has approved millions of dollars in Congestion Mitigation and
14 Air Quality funds for alternatively-fueled transit buses, transit facilities, bikeways, rail
15 station improvements, and pedestrian safety projects. As the vehicle fleet mix in
16 California shifts toward more fuel-efficient vehicles, the fuel demand per mile
17 traveled will decrease over time.

18 **Placer County Sustainability Plan**

19 The Placer County Sustainability Plan was the County's first GHG emissions
20 reduction plan and adaptation strategy, adopted in January 2020. The plan serves as
21 a roadmap for programs and policies that will be undertaken at the county level to
22 achieve GHG emissions reductions. The actions also provide co-benefits, such as
23 reduced energy costs, reduced air and water pollution, supporting local economic
24 development, and improving public health, safety, and quality of life. The GHG
25 reduction measures address emissions from the building energy, land use and
26 transportation, water consumption, and waste generation sectors. The plan's
27 adaptation strategy includes a vulnerability assessment that establishes which
28 areas, populations, and assets in the County are most vulnerable to severe hazards
29 including wildfire, drought, extreme heat, bark beetle infestation, flooding, and
30 severe winter weather, among others. A set of adaptation and resiliency goals,
31 policies, objectives, and feasible implementation measures are also included.

1 **ENERGY**

2 Reliable, affordable, and accessible energy is a key component of public health,
3 safety, and economic security. Energy resources can be in the form of many
4 different natural resources: fossil fuels such as coal, oil and natural gas, as well as
5 renewable energy sources such as solar radiation, wind, hydropower, biological
6 processes and geothermal heat. Energy resources support the region's economic
7 base, agricultural production, and infrastructure capacity.

8 This section describes the existing conditions and regulatory framework related to
9 energy resources in the Town of Loomis and surrounding region. Within this section,
10 and most relevant to the Town of Loomis, the energy resources described are those
11 related to transportation fuel, the consumption of electricity, natural gas, and
12 opportunities for energy conservation and use of renewable energy.

13 **MAJOR FINDINGS**

14 The following provides a summary of key findings that will be taken into account for
15 the General Plan update. The technical background on each topic is further
16 discussed in the sections to follow.

- 17 > As demonstrated by the findings of the Town of Loomis Strategic Energy
18 Resources Report, energy efficiency and conservation and the shift toward
19 renewable energy sources can also provide economic benefit. This report
20 includes strategies and actions that are relevant to the Town of Loomis.
- 21 > Local utility providers are increasingly providing support and incentives to
22 improve energy efficiencies in residential and non-residential operations and
23 buildings, as well as providing affordable options promoting the use of solar
24 and other renewable energy sources.
- 25 > State mandates are increasingly stringent with regard to required building
26 energy efficiency and conservation features and processes that need to be
27 incorporated into the planning, design, construction, use and occupancy of
28 all newly constructed or substantially renovated buildings and structures
29 throughout California. Planning for these requirements will allow new

NATURAL RESOURCES

- 1 construction and renovation to adhere to State requirements, but in a
2 fashion that is in alignment with the Town’s vision for the design and
3 operation of its built environment.
- 4 > Extreme events, such as heat waves and wildfires, as experience more
5 frequently and with greater intensity in the region over recent years, can lead
6 to disruptions in electric service as a result of both unanticipated power
7 outages and planned power shutoffs, such as the Public Safety Power
8 Shutoffs conducted by Pacific Gas and Electric Company (PG&E) to minimize
9 the risk of fire during extreme heat, wind or related fire events. These power
10 outages can be dangerous for those who rely on electricity to power home
11 medical devices, are susceptible to health effects associated with no air
12 conditioning and extreme heat, or other critical electricity-dependent needs.
13 Increased energy efficiency and use of renewable energy can reduce the
14 overall demand on the power system. Implementation of micro-grids can
15 further aid in resiliency under these conditions to allow critical facilities and
16 independent residents to operate independently from the power grid and
17 maintain electricity for critical needs during electric system power outages.

18 **Statewide Energy Trends**

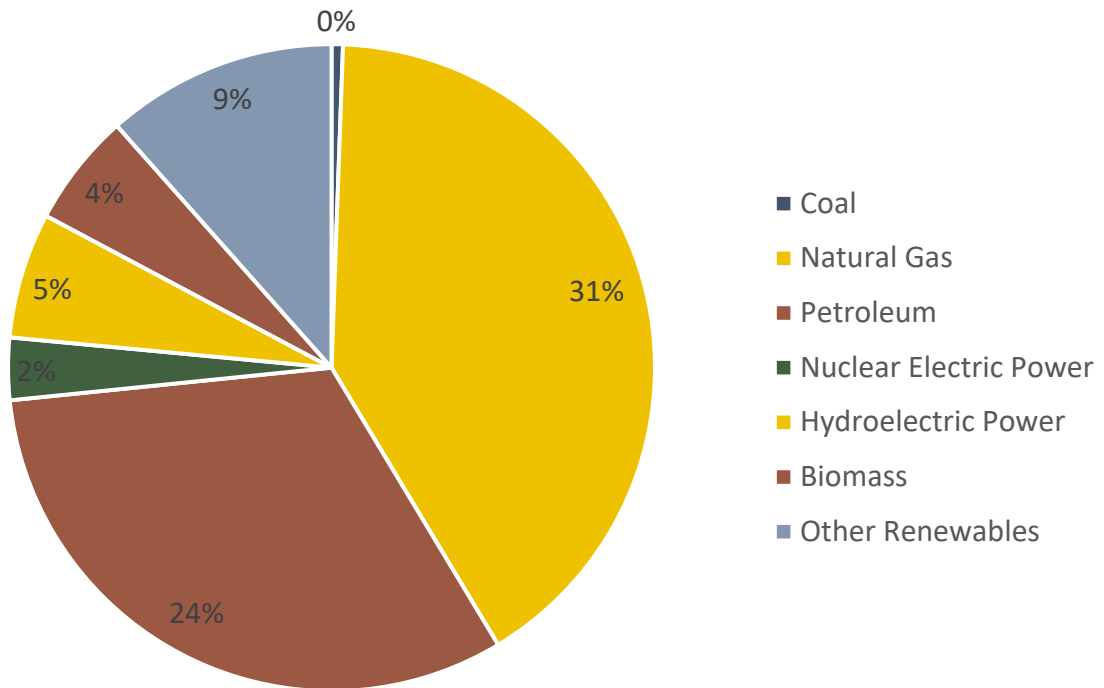
19 California's total energy consumption is the second highest in the nation, but, in
20 2018, the state's per-capita energy consumption was the fourth-lowest, due in part
21 to its mild climate and its energy efficiency programs (EIA 2020).

22 Figure 3-8 shows the relative end-use consumption of energy resources in California
23 by source. Total consumption was approximately 6,269.2 trillion British thermal
24 units (Btus), primarily in the form of petroleum (24 percent) and natural gas
25 (31 percent). California is the second-largest consumer of petroleum products in the
26 nation and the largest consumer of motor gasoline and jet fuel. Almost nine-tenths
27 of the petroleum consumed in the state is used in the transportation sector.

28 California ranked first in the nation as a producer of electricity from solar,
29 geothermal, and biomass resources and fourth in the nation in conventional
30 hydroelectric power generation. Electricity supply in California involves a complex
31 grid of power plants and transmission lines located in the Western United States,

1 Canada, and Mexico. In 2018, the total system power for California was 285,488
2 gigawatt-hours (GWh) of electricity, down 2 percent from 2017 (CEC 2019a). The
3 overall decline observed in California's total system electric generation for 2018 is
4 consistent with the trends observed in energy demand, which has been flat or
5 slightly declining as energy efficiency programs have resulted in end-use energy
6 savings and as customers install behind-the-meter energy systems that directly
7 displace utility-supplied generation.

8 **Figure 3-8: California Energy Consumption by Source**



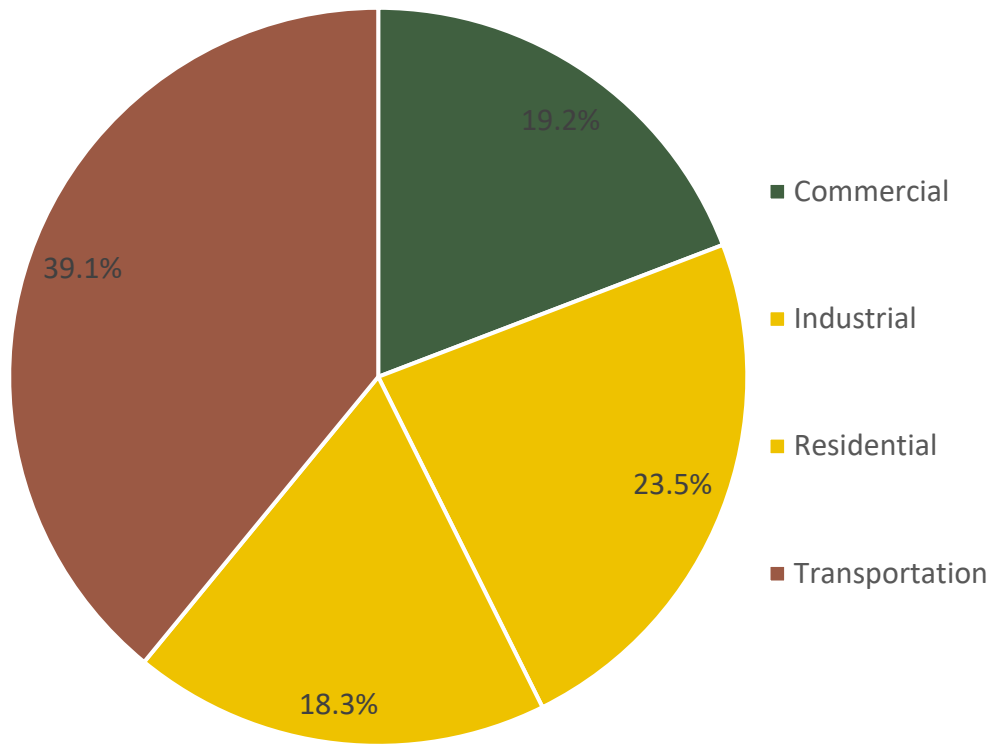
9
10 Source: EIA 2020.
11
12

NATURAL RESOURCES

1 As shown in Figure 3-9, the transportation sector is by far the largest consumer of
2 energy, accounting for nearly 40 percent of end-use energy consumption in
3 California. The industrial sector accounts for almost one-fourth of the State's energy
4 use and is the second-largest energy consuming sector in California. The
5 commercial and residential end-use sectors consume roughly equal amounts.
6 However, residential energy use per capita is lower than that of any other state
7 except Hawaii.

8 As California works to reduce greenhouse gas (GHG) emissions, as one strategy to
9 reduce vehicle exhaust emissions, California has provided incentives to increase the
10 use of non-carbon-emitting vehicles; by the end of 2018, California drivers owned
11 nearly 500,000 electric and plug-in hybrid vehicles and nearly one-fourth of the
12 nation's electric vehicle charging stations were in California (DOE 2020). While
13 transition to electric vehicles could increase electricity demand, it would reduce the
14 demand for transportation fuels. As the electricity sector becomes increasingly
15 dependent upon renewable energy, this would further reduce demand on non-
16 renewable energy sources.

1 **Figure 3-9: California End-use Consumption by Sector**



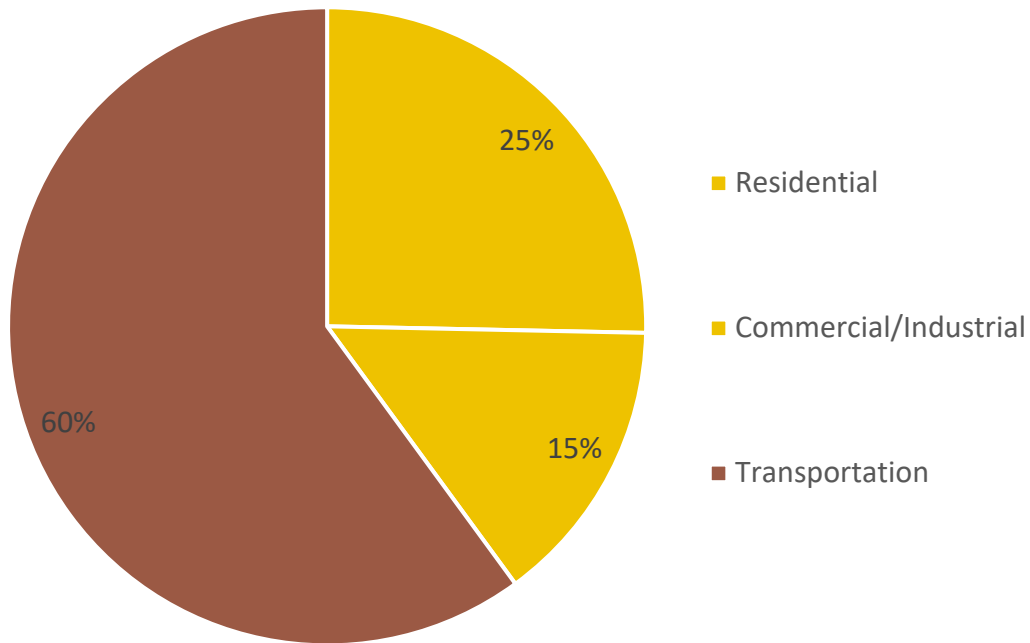
2
3 Source: EIA 2020.

4 **Local Energy Services and Demand**

5 Energy is consumed in the Town of Loomis by the built environment primarily in the
6 form of electricity and natural gas, and by transportation uses primarily in the form
7 of gasoline and diesel fuel; propane and other non-utility fuels use is also prominent
8 in the region. Figure 3-10 provides a summary of the relative magnitude of end-use
9 energy consumption by the principal sectors within the Town of Loomis in the year
10 2005, the most recent year for which an inventory has been taken for the Town.

NATURAL RESOURCES

1 **Figure 3-10: Town of Loomis 2005 Energy Consumption by Sector**



2
3 Source: Sierra Business Council 2012.
4

5 ***Local Energy Services***

6 In Placer County, including Loomis, electrical and natural gas services are provided
7 by PG&E, one of the largest combined natural gas and electrical energy companies
8 in the United States. PG&E generates, transmits, and distributes electrical service to
9 approximately 16 million people throughout its approximately 70,000-square-mile
10 service area, which stretches north to south in California from Eureka to Bakersfield
11 and west to east from the Pacific Ocean to the Sierra Nevada (PG&E 2020). The

1 population of Placer County is 398,329, approximately 2.5 percent of the 16 million
2 people served by PG&E.

3 PG&E owns approximately 107,000 circuit miles of electrical distribution lines and
4 18,000 circuit miles of electrical transmission lines (PG&E 2020). In 2019, PG&E
5 delivered approximately 78,071 GWh of electricity within its service area (CEC
6 2020a); Placer County consumed approximately 3.7 percent (2,915 GWh) of that
7 total (CEC 2020b). PG&E provides natural gas service to Loomis through portions of
8 its approximately 43,000 miles of natural gas distribution pipelines (PG&E 2020). In
9 2019, natural gas consumption in the PG&E service area totaled approximately
10 4,942 million therms (CEC 2020c), approximately 2 percent (96 million therms) of
11 which was consumed by users in Placer County (CEC 2020d).

12 Under a joint exercise of powers agreement, Placer County and the cities of Auburn,
13 Colfax, Lincoln, Loomis, and Rocklin (Members) have established a joint powers
14 authority called Pioneer Community Energy (Pioneer). Currently, Pioneer provides a
15 Community Choice Aggregation program, which acts as an alternative electricity
16 supplier to PG&E. The electric power is transmitted over PG&E transmission and
17 delivery infrastructure. PG&E continues to own its transmission and delivery
18 infrastructure and remains responsible for maintaining and servicing these systems.
19 Pioneer partners with PG&E for billing and collection services. Pioneer's Community
20 Choice Aggregation program complies with California's Renewables Portfolio
21 Standard program, which requires a minimum 60 percent renewable energy
22 portfolio by 2030 and 100 percent carbon free electricity by 2045. Customers may
23 choose to receive both transmission/delivery and electric generation service of
24 PG&E, or to receive electric power from Pioneer. Pioneer's Community Choice
25 Aggregation program currently serves 90 percent of customers within its territory.

26 During Public Safety Power Shutoff events, PG&E can shut off power to their
27 distribution and transmission lines (also known as de-energizing) to prevent their
28 equipment from starting a wildfire. These shutoffs are considered necessary to
29 protect customers and first responders. Due to extreme heat, wind, and related fire
30 hazard events, these power shutoffs have occurred more frequently over the past
31 several years.

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1 In addition to electricity and natural gas, propane and wood are commonly used in
2 residences, particularly in the more rural parts of the Planning Area, as an
3 alternative fuel for natural gas. According to United States Census Bureau data,
4 approximately 8 percent of homes in the Town of Loomis use bottled, tank, or liquid
5 propane gas and 3 percent of homes in the Town of Loomis use wood for home
6 heating fuel. This is about twice than the average for the State as a whole.

7 ***Electricity Energy Sources***

8 PG&E provides power from a variety of sources, including nuclear, hydroelectric,
9 natural gas, and renewable energy resources such as wind, geothermal, biomass,
10 solar, and small hydro. In addition to a base power mix shown, PG&E offers 100
11 percent and 50 percent solar electricity source options for customers. Both the base
12 and 50 percent solar option power mixes are shown in Table 3-10.

13 In 2018, approximately 86 percent of energy delivered by PG&E through its base mix
14 was from non-GHG-generating sources: 39 percent of energy delivered by PG&E was
15 from qualified renewable sources, thereby reaching the State's 2020 renewable
16 energy goal ahead of schedule. PG&E owns and operates eight solar plants, and has
17 connected approximately 465,000 private rooftop solar customers to its energy grid.
18 PG&E's hydroelectric system is spread across California, consisting of 100 reservoirs
19 that feed 65 powerhouses and a pumped storage facility, with a total generating
20 capacity of nearly 4,000 megawatts (PG&E 2020).

Table: Pacific Gas and Electric Company Electrical Power Mix, 2018

Electrical Sources	Base Plan (%)	50% Solar Choice (%)
Non-emitting Nuclear	34*	17*
Large Hydroelectric	13*	6*
Renewable ¹	39*	69*
Biomass and waste	4	2
Geothermal	4	2
Small hydroelectric	3	1
Solar	18	59
Wind	10	5
Natural Gas	15	7
Unspecified ²	0	0

Source: CEC 2019b

Notes:

¹ These energy sources are considered eligible under California’s Renewable Portfolio Standard Program.

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

* These resources are greenhouse gas-free.

1

2 As noted above, Pioneer is also held to the California Renewable Portfolio Standards
 3 for its power content. Table 3-11 presents Pioneer’s power content in 2018. The
 4 program’s portfolio emissions profile is dependent upon whether Pioneer’s
 5 Governing Board decides to alter its resource mix to exceed State requirements for
 6 renewable energy, and what percentage of customers and potential customers
 7 opted out and chose to choose to remain with PG&E.

8 ***Transportation-related Energy***

9 Transportation is the largest energy-consuming sector in California, accounting for
 10 approximately 40 percent of all energy use in the state (EIA 2020). More motor
 11 vehicles are registered in California than in any other state, and commute times in
 12 California are among the longest in the country.

NATURAL RESOURCES

Table3-11: Pioneer Community Energy Electrical Power Mix, 2018	
Electrical Sources	Base Plan (%)
Non-emitting Nuclear	0*
Large Hydroelectric	0*
Renewable ¹	33*
Biomass and waste	2
Geothermal	1
Small hydroelectric	7
Solar	17
Wind	6
Natural Gas	0
Unspecified	67

Source: CEC 2019c

Notes:

¹ These energy sources are considered eligible under California’s Renewable Portfolio Standard Program.

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

* These resources are greenhouse gas-free.

1 Types of transportation fuel have diversified in California and elsewhere. Historically,
 2 gasoline and diesel fuel accounted for nearly all demand. While gasoline and diesel
 3 fuel remain the primary fuels used for transportation in California, the types of
 4 transportation fuel have diversified in California and elsewhere. Various statewide
 5 regulations and plans (e.g. Low Carbon Fuel Standard, AB 32 Scoping Plan)
 6 encourage the use of a variety of alternatives are used to reduce demand for
 7 petroleum-based fuel. Depending on the vehicle capability, conventional gasoline
 8 and diesel are increasingly being replaced by alternative transportation fuels,
 9 including biodiesel, electricity, ethanol, hydrogen, natural gas, and other synthetic
 10 fuels. California has a growing number of alternative fuel vehicles through the joint
 11 efforts of the California Energy Commission, the California Air Resources Board,
 12 local air districts, federal government, transit agencies, utilities, and other public and
 13 private entities. Despite advancements in alternative fuels and clean-vehicle
 14 technologies, gasoline and diesel remain the primary fuels used for transportation
 15 in California, sales of diesel fuel to California end users in 2018 of approximately

1 1,187,100 gallons per day and sales of gasoline to California end users of
2 approximately 455,900 gallons per day (CEC 2020e,f).

3 There is a direct link between vehicle miles traveled (VMT) and fuel use, as well as
4 related GHG emissions. Placer County VMT was approximately 9,770,592 miles per
5 day in 2012, projected to increase approximately 40 percent by 2036. However, the
6 VMT per capita for the county was estimated to be 28.16 miles per day per capita in
7 2012, and projected to decrease 4.5 percent by 2036 through the integrated land
8 use plans of Placer County jurisdictions and transportation projects contained in the
9 2036 Regional Transportation Plan (PCTPA 2016).

10 SACOG prepared a regional analysis of VMT and found average daily VMT in 2016 for
11 the Town of Loomis to range from about the same as to 50 percent greater than the
12 regional average (SACOG 2020). The SACOG Metropolitan Transportation Plan
13 (MTP)/Sustainable Communities Strategy (SCS) identifies several policies and factors
14 to promote reduced VMT per capita in the region. Among these factors are the trend
15 toward more compact development, with more residents able to find jobs, schools,
16 shopping, and other activities closer to their place of residence, and proposed
17 improvements in transit and walkability that promote a shift away from reliance on
18 private vehicles for transportation.

19 **Local Energy Efficiency and Conservation Strategies**

20 The Town of Loomis approved the *Loomis Strategic Energy Resources Report* on
21 March 17, 2015 (Town of Loomis 2015). The report evaluated energy consumed by
22 buildings (residential and non-residential) and municipal operations in the Town of
23 Loomis, and identified energy efficiency and conservation goals and strategies to
24 achieve overall reductions in energy consumption. The report also demonstrated
25 annual economic savings that could be achieved with full implementation of the
26 proposed strategies; the report estimated 2020 annual energy savings of 10,461,383
27 kWh of electricity and 59,250 therms of natural gas for a total annual savings of
28 approximately \$2.86 million. Strategies were developed according to five goals:

NATURAL RESOURCES

1 **Goal 1.**

2 Increase Energy Efficiency in Existing Structures

3 > Strategy 1.1: Expand outreach and education to increase participation in
4 voluntary home energy-efficiency programs

5 > Strategy 1.2: Expand outreach and education to increase participation in
6 voluntary non-residential energy-efficiency programs

7 > Strategy 1.3: Identify and promote programs that help finance energy
8 efficiency and renewable energy projects

9 **Goal 2.**

10 Increase the Energy Performance of New Construction

11 > Strategy 2.1: Improve compliance with Title 24 Green Building and Energy
12 Efficiency Standards

13 > Strategy 2.2: Provide incentives for buildings to exceed the current Title-24
14 Energy Efficiency Standards

15 > Strategy 2.3: Reduce the heat island effect and related summer heat gain in
16 residential and non-residential projects

17 **Goal 3.**

18 Increase Renewable Energy Use

19 > Strategy 3.1: Evaluate the Town's residential, non-residential, and municipal
20 solar potential and assess barriers to increased solar energy use

21 > Strategy 3.2: Develop a comprehensive renewable energy program that
22 provides outreach, financing, and technical assistance

23 > Strategy 3.3: Encourage new development projects to meet 70% of their
24 energy needs from renewable sources

1 **Goal 4.**

2 Increase Energy Efficiency in Municipal Structures and Operations

3 > Strategy 4.1: Improve energy efficiency of existing municipal structures

4 > Strategy 4.2: Evaluate feasibility of improving energy efficiency of traffic
5 signals and public lighting

6 **Goal 5.**

7 Increase Community Water Conservation and Efficiency to Reduce Associated
8 Energy Use

9 > Strategy 5.1: Encourage residents and businesses to conserve water used
10 indoors

11 > Strategy 5.2: Encourage residents and businesses to conserve water used
12 outdoors

13 As detailed below within the Regulatory Framework, the Town has also adopted
14 several ordinances as part of its Municipal Code that reduce energy consumption
15 associated with lighting and water use.

16 PG&E offers incentives, rebates, and educational resources to residents, businesses,
17 nonprofits, and government agencies in Loomis. For nonresidential customers,
18 PG&E offers rebates and incentives for power management software; occupancy
19 sensors on lights; steam traps; heating, ventilation, and air conditioning (HVAC)
20 motors and pumps; electric water heaters; process cooling; data center airflow
21 management; boiler economizers; refrigeration; boiler heat recovery; refrigeration
22 control; variable-frequency drive pumps; boilers; and fans. Pioneer also supports
23 individual renewable energy and conservation programs. Pioneer customers are
24 eligible to participate the Pioneer’s solar net energy metering program, in which
25 participants are credited for the net surplus energy generated by their solar
26 systems. Pioneer also operates the mPower program, which provides financing to
27 residential, commercial, industrial, agricultural, multifamily and non-profit property
28 owners for energy efficiency upgrades, water conservation measures, and energy
29 generation systems. Customers of Pioneer are also still eligible for many of PG&E’s
30 energy efficiency rebate programs and incentives.

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1 Placer County adopted its first Sustainability Plan in January 2020. While the plan is
2 focused on overall opportunities to reduce GHG emissions, as the residential and
3 non-residential sectors accounted for approximately one-third of the community-
4 wide emissions, several of the actions focus specifically on energy efficiencies,
5 energy conservation, and opportunities for renewable energy. Strategies include
6 replacing natural gas use with electricity as a cleaner energy source, replacement of
7 appliances and equipment with more energy-efficient models, retrofits to existing
8 buildings to improve HVAC and shell/envelope systems, adoption of CALGreen Tier 1
9 standards and increased zero-net energy in new construction, on-site renewable
10 energy generation and storage systems, and education of community members with
11 regard to energy efficiency and conservation opportunities. Although the scope of
12 the plan is on the unincorporated county and county operations, not the Town of
13 Loomis, the plan demonstrates relevant strategies and related actions being
14 undertaken in the region to address similar conditions to the Town of Loomis with
15 regard to energy use.

16 **Energy Regulatory Framework**

17 While many federal, State, regional, and local energy-related plans, policies, and
18 regulations do not directly apply to the implementation of the proposed General
19 Plan Update, the information below is helpful for understanding the overall context
20 for energy conservation and efficiency actions locally and regionally.

21 ***Federal***

22 **Energy Policy Act of 1992**

23 The Energy Policy Act of 1992 consists of 27 titles detailing various measures
24 designed to lessen the nation's dependence on imported energy, provide incentives
25 for clean and renewable energy, and promote energy conservation in buildings. Title
26 III of the Act addresses alternative fuels. It gave the U.S. Department of Energy
27 administrative power to regulate the minimum number of light-duty alternative fuel
28 vehicles required in certain federal fleets beginning in fiscal year 1993. The primary
29 goal of this program is to cut petroleum use in the United States by 2.5 billion
30 gallons per year by 2020.

1 **Energy Policy Act of 2005**

2 The Energy Policy Act of 2005, which was intended to establish a comprehensive,
3 long-term energy policy, is implemented by the U.S. Department of Energy. The Act
4 addresses energy production in the U.S., including oil, gas, coal, and alternative
5 forms of energy, as well as energy efficiency and tax incentives. The 2007 Energy
6 Independence and Security Act expanded the program and its requirements to
7 include long-term goals of using 36 billion gallons of renewable fuels and extending
8 annual renewable-fuel volume requirements to year 2022. The four renewable fuels
9 have specific renewable fuel-blending requirements for obligated parties such as
10 refiners and importers of gasoline or diesel fuel. EPA implements the program in
11 consultation with U.S. Departments of Agriculture and Energy. Gasoline and diesel
12 refiners and importers (Obligated Parties) are required to demonstrate compliance
13 with the Renewable Fuel Standard program.

14 ***State***

15 The State has a related focus on energy efficiency and planning for energy resources
16 at a statewide level, with influences local planning efforts. Some of the major
17 components of California's climate change and energy efficiency initiatives are
18 highlighted below.

19 **Renewables Portfolio Standard**

20 SB 1078, SB 107, Executive Order (EO)-S-14-08, and SB X1-2 and SB 100 have
21 established increasingly stringent renewable portfolio standard (RPS) requirements
22 for California's utility companies. RPS-eligible energy sources include wind, solar,
23 geothermal, biomass, and small-scale hydro projects.

- 24 > SB 1078 required investor-owned utilities to provide at least 20 percent of
25 their electricity from renewable resources by 2020.
- 26 > SB 107 accelerated the SB 1078 timeframe to take effect in 2010.
- 27 > EO-S-14-08, codified by SB X1-2, increased the RPS further to 33 percent by
28 2020.
- 29 > SB 350 increased the RPS to 50 percent by 2030.

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1 > SB 100 increased the RPS to 60 percent by 2030 and required the State's
2 electricity to come from carbon-free resources by 2045. SB 100 supersedes
3 the renewable energy requirements set by SB 350, SB 1078, SB 107, and SB
4 X1-2.

5 These requirements reduce the reliance on non-renewable energy sources
6 associated with both existing and new development.

7 **California Code of Regulations, Title 20 and 24**

8 New buildings constructed in California must comply with the standards contained
9 in California Code of Regulations (CCR) Title 20, Building Energy Regulations, and
10 Title 24, California Building Standards Code.

11 Title 20 standards range from power plant procedures and siting to energy efficiency
12 standards for appliances, ensuring reliable energy sources are provided and
13 diversified through energy efficiency and renewable energy resources. California's
14 2009 Appliance Efficiency Regulations (20 CCR 1601–1608) were adopted by the CEC
15 on December 3, 2008, and approved by the California Office of Administrative Law
16 on July 10, 2009. The regulations include standards for both federally regulated
17 appliances and non-federally regulated appliances.

18 Title 24 Parts 6 and 11 are the California's Building Energy Efficiency Standards. Part
19 6, the California Energy Code, governs energy consumed by commercial and
20 residential buildings in California. This includes the HVAC system; water heating; and
21 some fixed lighting. Non-building energy use, or "plug-in" energy use, is not covered
22 by Title 24. The standards are updated periodically to allow for consideration and
23 possible incorporation of new energy efficiency technologies and methods; the most
24 recent update was in 2019 and took effect January 1, 2020. One of the changes
25 included within the 2019 Title 24, Part 6, is the requirement that certain residential
26 developments, including some single-family and low-rise residential development,
27 include on-site solar energy systems capable of producing 100 percent of the
28 electricity demand of the residences. With implementation of solar photovoltaic
29 systems with new residential development, homes built under the 2019 standards
30 will use approximately 53 percent less energy than those under the 2016 standards.
31 Nonresidential buildings are anticipated to consume 30 percent less energy as

1 compared to nonresidential buildings constructed under the 2016 California Energy
2 Code, primarily through prescriptive requirements for high-efficiency lighting (CEC
3 2018). The California Energy Code is enforced through the local plan check and
4 building permit process.

5 On July 17, 2008, the California Building Standards Commission adopted the
6 California Green Building Standards Code (Part 11, Title 24, Part 11), commonly
7 known as CALGreen, the nation's first green building standards. As noted, the code
8 was last updated in 2019, effective January 1, 2020. Part 11 establishes mandatory
9 standards, including planning and designing for sustainable site development,
10 energy efficiency (in excess of the California Energy Code requirements), water
11 efficiency and conservation, material conservation and resource efficiency, and
12 environmental quality. The provisions of the code apply to the planning, design,
13 construction, use and occupancy of all newly constructed or substantially renovated
14 buildings and structures throughout California. Some key provisions of the code
15 include, but are not limited to, requirements related to the installation of electric
16 vehicle charging infrastructure in residential and nonresidential developments,
17 establishment of maximum fixture water use rates to reduce indoor water use
18 consumption, diversion of 65 percent of construction and demolition waste from
19 landfills, and mandatory use of low-pollutant emitting interior finish materials such
20 as paints, carpet, and flooring. The code also includes additional voluntary measures
21 to achieve increased energy savings: Tier 1 prerequisites set a higher baseline than
22 CALGreen mandatory measures, while Tier 2 prerequisites include all of Tier 1 plus
23 some enhanced or additional measures.

24 **Executive Order B-18-12**

25 Executive Order B 18 12 orders all new State buildings and major renovations
26 beginning design after 2025 be constructed as Zero Net Energy facilities. The
27 Executive Order sets an interim target for 50 percent of new facilities beginning
28 design after 2020 to be Zero Net Energy. It directs State agencies to take measures
29 toward achieving Zero Net Energy for 50 percent of the square footage of existing
30 State-owned building area by 2025.

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1 ***Regional and Local***

2 **Town of Loomis Municipal Code**

3 The Town of Loomis Municipal Code provides regulations regarding land and
4 structures to promote the health, safety, and welfare of the public and ensure the
5 orderly development of the town. The following provisions of the Municipal Code
6 are related to energy:

- 7 > Section 13.30.080(B) in Section 13.30.080, "Outdoor Lighting," begins by
8 stating: "Lighting shall be energy efficient..."
- 9 > Section 13.34.050(A), "Landscape Design," in Section 13.34.050, "Landscape
10 Standards," states: "The required landscape plan shall be designed to
11 integrate all elements of the project (e.g., buildings, parking lots, and streets)
12 to achieve their aesthetic objectives, desirable microclimates, and minimize
13 water and energy demand."
- 14 > Section 13.38.050(F)(8) in Section 13.38.050, "General Requirements for All
15 Signs," states: "Light sources shall utilize energy efficient fixtures to the
16 greatest extent possible."

17 **Town of Loomis Strategic Energy Resources Report**

18 As detailed above with regard to local energy efficiency and conservation strategies,
19 the Strategic Energy Resources Report presents goals, strategies, and actions to
20 expand local efforts surrounding energy efficiency and renewable energy sources.
21 This report services as a roadmap intended to provide guidance to Town staff,
22 demonstrate the Town's commitment to energy efficiency, and inspire community
23 participation and efforts to maximize energy efficiency and reduce dependency
24 upon fossil fuel-based energy. However, the measures contained within the report
25 are not mandatory or bound by regulation.

Chapter

4

CULTURAL AND HISTORIC RESOURCES



1 **CULTURAL AND HISTORIC RESOURCES**

2 **INTRODUCTION**

3 These resources are defined as buildings, sites, structures, or objects that may have
4 historical, architectural, archaeological, cultural, or scientific importance.
5 Preservation of the Loomis Study Area's cultural heritage of Loomis should be
6 considered when planning for the future. The Loomis Planning Area, which is the
7 Study Area for this background report, includes the lands within the Town's
8 established corporate boundaries.

9 **KEY TERMS**

10 The complete General Plan Glossary can be found in Volume II; however, the
11 following terms are included for reader comprehension.

12 **Archeology.** The study of historic or prehistoric peoples and their cultures by
13 analysis of their artifacts and sites.

14 **Complex.** A patterned grouping of similar artifact assemblages from two or more
15 sites, presumed to represent an archaeological culture.

16 **Ethnology.** The study of different societies and cultures.

17 **Midden.** A deposit marking a former habitation site and containing such materials
18 as discarded artifacts, bone and shell fragments, food refuse, charcoal, ash, rock,
19 human remains, structural remnants, and other cultural leavings.

20 **Paleontology.** The science of the forms of life existing in former geologic periods, as
21 represented by their fossils.

1 **RESOURCE SETTING**

2 **Prehistory**

3 Until recent years, few archeological studies have been conducted in this region.
4 Early excavations had focused either on the large, rich village sites in the Delta
5 region and along the major waterways in the Central Valley or on the higher
6 elevation sites in proposed reservoir areas, along major Sierra Nevada waterways.
7 As a result, chronological sequences have been established for each region, with
8 later work emphasizing refinement of these sequences.

9 Increasing urbanization in the Sacramento region has pushed development further
10 from the major drainages and into the margin of the Sacramento Valley and the
11 Sierra Nevada foothills. There is no established archeological sequence for the
12 region, but the ties seem to be stronger to the Sierra Nevada.

13 The Planning Area is in an interesting area for archeological research because it is
14 between three areas with defined archeological sequences: the Oroville locality to
15 the north, the Central Sierra area to the east and the Central Valley/Delta area to the
16 west. These sequences include many similar artifact types and dates for major
17 cultural changes, but there are also significant differences between them. It is an
18 important goal of archeology to determine how these differences relate to different
19 cultural traditions, cultural adaptation to differing environmental conditions or other
20 natural or cultural influences. It is not clear at present which of these sequences
21 best reflects the prehistory of the Planning Area or if a separate local sequence is
22 necessary to adequately describe the area.

23 An excavation project on sites on Linda Creek and Strap Ravine corroborated the
24 findings of earlier work that indicated that the strong Central Valley association
25 characteristic of the late prehistoric cultures in the foothill area might not extend to
26 earlier cultures. Although there are many similarities with the material culture of the
27 Late Horizon of the Central Valley, there are also significant points of diversion.

28 It is clear that the most recent prehistoric cultures of the area reflect, in general, the
29 late cultures of the Central Valley, though there are interesting local variations. Some

CULTURAL AND HISTORIC RESOURCES

1 of the differences clearly result from the greater wealth and population in the valley,
2 but other differences may reflect a technological response to differing ecological
3 settings and resource exploitation techniques.

4 **Ethnology**

5 At the time of the gold rush, the Loomis area was occupied by the Nisenan Indians,
6 identified by the language they spoke. There have been several general treatments
7 of the Nisenan culture by Beals 1933; Kroeber 1929; Littlejohn 1928; and Wilson and
8 Towne 1978, Wilson 1982. There are also several more specific articles on various
9 aspects of their culture as reported in the bibliography and elsewhere. The following
10 text by Norman Wilson, where not cited, is derived from Wilson and Towne 1978 and
11 Wilson 1982.

12 The Nisenan peoples occupied the drainages of the Yuba, Bear, and the American
13 Rivers from the Sacramento River on the west to the summit of the Sierra in the
14 east. The Foothill and Hill Nisenan peoples were distinctive from the Valley Nisenan
15 and were loosely organized into tribelets or districts with large central villages,
16 surrounded by smaller villages. These are often referred to as winter villages by
17 older Indians. These central villages and their leaders seemed to have had power or
18 control over the surrounding smaller villages and camps and specific surrounding
19 territory (Beals 1933; Littlejohn 1928; Wilson and Towne 1978). These districts were
20 oriented to the natural resources and the landforms. In the foothills and
21 mountains, the major drainages became formal or informal boundaries with the
22 land in between forming the district. Thus, the Placerville District is between the
23 Cosumnes River and the Middle Fork of the American River, the Auburn District
24 between the Middle Fork of the American River and the Bear River and the Nevada
25 City District between the Bear River and the Yuba River. There were other villages
26 and headmen in these districts that also held significant power and at the present
27 time it is not clear where most of these were.

28 In the valley, there is also the pattern of major villages controlling land and local
29 groups of Indians. Different than the hills, the land between drainages becomes the
30 separation between districts with the controlling villages situated along the major
31 rivers. *Pujuni* at the mouth of the American River is a good example. There also

CULTURAL AND HISTORIC RESOURCES

1 seems to be a separation of the Valley Nisenan and the Foothill Nisenan near the
2 edge of the valley where the foothills start. The valley peoples were more oriented
3 to the Sacramento, American, Yuba, Feather, and the Bear rivers on the valley floor.
4 Their large villages with their complex and rich culture are usually found along these
5 watercourses. It is believed that they occupied both sides of the rivers and used the
6 river courses for communication and major resource exploitation. Smaller stream
7 courses were often occupied with permanent villages and seasonal campsites. They
8 were not large villages, and some may reflect a budding-off of valley peoples as
9 populations expanded in late times.

10 All the Nisenan depended on activities attuned to the seasonal ripening of plant
11 foods and the seasonal movements and migration of the animals and the runs of
12 fish. With the flooding of the valley in the winter and spring, a great number of
13 animals such as elk, antelope and bears moved to the natural levees along the rivers
14 and up into the lower foothills. Along the foothill margins they joined the resident
15 and migratory deer herds. Huge flocks of waterfowl visited the flooded areas
16 between the rivers and the foothills, coveys of quail gathered in the fall, and pigeons
17 were common in the fall and spring. Steelhead and salmon ran up most of the
18 major streams including Secret Ravine and Auburn Ravine in the fall, winter, and
19 spring. The hunting of these plentiful resources was part of the foothill lifeway. This
20 same bounty was available to the river-oriented valley peoples out on the valley
21 floor and along the natural levees of the rivers. There was probably not a great deal
22 of competition for resources at this time, except in lean years. Both the valley and
23 foothill peoples lived at the edges of rich ecotones: the rivers and the valley floor;
24 and the valley floor and the foothills.

25 The valley floors between the rivers were not permanently occupied and became
26 seasonal resource bases. In many places, the areas between the rivers were shallow
27 overflow basins that flooded in the winter and spring creating great tule forests,
28 ponds and swampy areas, in some areas, there were oxbow lakes and other
29 permanent ponds. These were hard to cross until summer and became a major
30 resource base for the valley groups. Often access was made possible by the burning
31 of the tule. These areas were rich with plant and animal resources including herds of
32 deer, elk, and grizzly bears, and were exploited by the surrounding Indian people.

1 **Historic Period Background**

2 The early history of the region after the discovery of gold along the American River
3 in January 1848 focuses to the many miners who checked all likely drainages for the
4 presence of gold. Early mining efforts were designed to extract the placer gold from
5 creeks and rivers, by individuals and small groups. After the gold became tougher to
6 find, and the seasonality of mining related to the months when the creeks carried
7 water from rainfall and snow melt, the control of water sources became an
8 important issue, and corporate enterprises that built dams and excavated ditches
9 that extended the mining to the entire year, took over control of much of the mining
10 in the region. Corporate interests could also create larger mining enterprises, hiring
11 workers at an hourly or daily rate.

12 The gold in the region lay in the gravels and earth: this area is not one in which hard
13 rock deposits are present. All gold mining operations undertaken were forms of
14 placer mining.

15 The early mining in the region as well as the need for overnight lodgings for both
16 individuals and for freighting teams pulling loads of goods from the riverfront in
17 Sacramento led to the development of Pine Grove House, an early inn along Secret
18 Ravine. The freighting teams were important in providing supplies to the many small
19 towns and camps that grew up rapidly in the mining areas.

20 Very early on, a community began to grow around the Pine Grove House, with
21 mining remaining an important industry with both dry diggings and other placer
22 mining with water from the Bear River Ditch. The community of Smithville was
23 named for a local resident, Lew G. Smith (*Placer Herald* 17 April 1858; 31 December
24 1859). Smith & Hubble's store was one of the early businesses. Other newspaper
25 articles describe a courthouse, a three-story brick building, hotels, lumber yard,
26 black smith and carpenter shops, a plaza, a theater, and a horse race course (*Placer
27 Herald* 21 August 1858; *Auburn Journal* 6 November 1913). The town site is shown on
28 early maps about 0.75 miles mile south of the center of the old town of Loomis.

29 With many individual miners failing to strike it rich after the best claims were taken
30 up by others or rapidly worked out, the new Californians soon recognized the
31 agricultural value of the landscape. Many of the early agricultural efforts involved

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1 grain crops and grazing cattle and sheep. The livestock pursuits were limited by the
2 climate, with the natural grasses and browse drying up by mid to late spring. The
3 ranchers needed to acquire acreage in the mountains, and drive their herds to the
4 verdant pastures of the Sierra Nevada, returning to the home ranch in the fall when
5 grass began to re-grow when the rains started again. This seasonal practice of
6 transhumance is an ancient practice, still used in California and throughout other
7 countries to take advantage of seasonal resources.

8 The early development of water systems led to permanent settlement, and ranchers
9 situated near the drainages and mining ditches could move into different types of
10 agriculture, planting orchards in many regions. The Loomis Basin proved especially
11 fertile for orchards and vineyards. An 1890 newspaper story presented the order of
12 the popularity of various farm products: peach, cherries, pears, apricots, apples,
13 plums, prunes, table grapes, wine grapes, olives, orange, fig, small berries, and
14 vegetables (*Placer Argus* 25 January 1890).

15 In addition, the Placer Citrus Colony to the north of the Town, established in 1888 by
16 J. Parker Whitney, the first agricultural colony in Placer County. Lands were divided
17 into blocks of 10, 20, 40, and 80 acres, leading to the division of the lands now
18 comprising the town into similar tracts (*Sacramento Daily Union* 12 January 1891).

19 The construction of the Central Pacific Railroad brought many changes to the region.
20 This section was completed in the early 1860s, with the head of freighting moving
21 further eastward as new sections were completed. The railroad provided expanded
22 markets for the fruits and vegetables grown in the region, shipping from Pino
23 Station in town.

24 Another industry that expanded in the Planning Area is granite quarrying. Penryn
25 and Rocklin had established quarries. In the mid-1870s, a new quarry was
26 established on the ranch of J. Turner as the Smithville Quarry (*Placer Herald* 22
27 December 1877). A list of several other quarry names in the Loomis Area include
28 Carlow, Grant, Healy and Cook quarries (Loomis Basin Historical Society 2009).

29 Initially, the post office in the area was called "Placer", established in 1861. The name
30 of the post office at Pine Grove was officially changed to Smithville in March of 1862
31 (*Sonoma Democrat* 6 March 1862). Smithville was discontinued in 1869, moving to
32 "Pino."

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1 The name Pino was used until 1890 (Frickstad 1955). The railroad station was Pino
2 Station; the railroad and express office were called Loomis and the school district
3 was Smithville. In 1890, the postmaster had the name officially changed to Loomis,
4 with the Board of Supervisors renaming the school district at the same time
5 (*Sacramento Daily Union* 12 June 1890; *Placer Herald* 19 July 1890).

6 Mining continued in the region in phases, with new technologies adopted over time.
7 One such mine was the Laird Hydraulic mine. As with many hydraulic pit mines, it
8 was worked in the 1870s-1890s, and the mine opened again in 1909. A final phase
9 appears to have occurred in the 1930s, with dredge mining undertaken in the
10 Depression years, in about 1935.

11 The population of what became Loomis is a bit difficult to distinguish in the federal
12 Census records, with the now Town appearing to be located in Township 9. Township
13 9 as a whole included record of residents that included various subdivisions by
14 towns, with names changing, preventing a good analysis of numbers of different
15 ethnic groups. In 1860, the area of Secret Ravine included a number of individuals
16 born in China, working primarily as placer miners. Ten years later, an area of the
17 Township was distinguished as Pino. Population numbers are much lower, perhaps
18 due to the gold-bearing sediments having been worked out by placer mining. Ten of
19 the 61 households in Pino were Chinese men.

20 Again, trying to track Loomis is difficult. In 1880, there were still a number of
21 households comprised of Chinese born men, some working as farm laborers and
22 the majority as miners. Prejudice against Chinese miners began in the late 1840s,
23 even before Statehood, and continued, pushed by labor organizations in California.
24 In 1882, Congress passed the Chinese Exclusion Act that excluded immigration from
25 China for 10 years; the act was renewed in 1892 and made permanent in 1902. Acts
26 of violence against the Chinese were numerous, and gradually, many moved to
27 more urban areas with established Chinese communities.

28 At the same time, agriculture in California needed workers. In the late 1880s-1890s,
29 immigration from Japan began. There is no 1890 census to review, but the 1900
30 federal Census still shows some Chinese residents, but a number of Japanese-born
31 men now lived in the Loomis area, working in agriculture.

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1 Eventually, the Japanese also became targeted, and Japanese immigration was
2 slowed to California, with a “Gentlemen’s Agreement”, a series of notes between the
3 nations in 1907-1908, with Japan agreeing to stop issuing passports to Japanese
4 men to come to work as laborers (Daniels 1962:44;1993:13).

5 The California legislature passed the Alien Land Law in 1913, preventing Japanese
6 Issei (immigrants, first generation) from land ownership. There were loopholes that
7 allowed the land to be placed in the name of their children born in the United States
8 (Nissei) or they could lease the land from white landlords (Takaki 1989:203-205).

9 By 1900, much of the land in the northern portion of the Loomis Planning Area had
10 been divided into smaller 10-acre parcels, with a number of parcels owned by
11 Sacramento residents (Map of the Citrus Colony 1900). They may have been holding
12 the land as an investment for later sale or had tenants working the land.

13 With the intensity of fruit production in the region, fruit packing became an
14 important industry. Harvested goods could be shipped westward to Sacramento or
15 the Bay Area, or eastward to markets in the Midwest or in the eastern states. By
16 1913, Pacific Gas and Electric Company had completed many parts of their system,
17 using waters from the high Sierra, stored seasonally in reservoirs, could be delivered
18 to through the associated ditch system to allow most acreage to be cultivated. In
19 1913, there were six fruit shipping firms in Loomis: Producer’s Fruit Co., Law Bros.,
20 Earl Fruit Company, Rowell Fruit Company, and The Loomis Fruit Growers’
21 Association (*Auburn Journal* 6 November 1913).

22 At the same time, the booming economy resulted in a number of new residences in
23 the Town and the country around the Town. The Town could also boast about good
24 schools, lodges, churches, and a great place to raise a family (*Auburn Journal* 6
25 November 1913).

26 The Loomis Fruit Growers Association was established in 1901 to provide fruit
27 packing and transport services for local fruit ranchers. A group of progressive
28 farmers started the Bank of Loomis in 1915, and by the 1920s Loomis had
29 become the second-largest fruit-shipping station in the county, after Newcastle.

30 A large fire destroyed most of the Downtown business core in 1915. By the early
31 1920s, almost every destroyed building in Loomis had been rebuilt with brick,

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1 concrete, or tile, including the Town’s bank, veterinary stables, fruit-shipping
2 warehouse, butcher shop and community churches. Outside of the Downtown
3 core, large orchards of budded and grafted fruit stock still spanned the
4 countryside.

5 A former resident who became a significant person in California history is William
6 Dana Perkins. Perkins, as a young man, owned Pine Grove House in 1860, and
7 became a land agent for the Central Pacific Railroad. In later years, he lived in
8 Rocklin and became appointed the State Librarian.

9 With the active industries, many members of different ethnic groups began to settle
10 in the Loomis area, with additional family and neighbors migrating to the region.
11 The 1920 Federal Census for Township 9, the larger area that includes the current
12 Loomis Planning Area, had a number of Japanese, Finnish, Spanish, and Indian
13 residents, many of whom worked on fruit farms. The establishment of supporting
14 community features such as the Japanese churches, dating to 1911, and a store in
15 Loomis also opened to provide cultural amenities and social support for the newer
16 residents (<http://japantownatlas.com/map-placer.html>).

17 Unfortunately, the fate of Japanese Issei and their children was sealed by the advent
18 of World War II. With unjustified fears about the loyalty of the immigrant Japanese
19 and their American-born children after Pearl Harbor in December 1941, President
20 Roosevelt ordered the internment of the families through Executive Order 9066.
21 Many Loomis residents were placed in camps throughout the war. Specific impacts
22 on different families as a result of this incarceration is a subject deserving much
23 more study—some may have lost their land and possessions in addition to the years
24 unfairly spent in the camps.

25 The Town of Loomis incorporated in 1984, including adjacent unincorporated lands
26 of Placer County. It remains a small town with surrounding larger acreage in part in
27 agricultural use, and unlike its neighbors Rocklin and Lincoln, has not grown
28 exponentially with residential subdivisions and supporting commercial enterprises
29 in the last 35 to 40 years.

CULTURAL AND HISTORIC RESOURCES

1 **Cultural Resources in the Town of Loomis**

2 Sixty-five cultural resources have been identified within the Loomis Planning Area,
 3 according to files maintained by the North Central Information Center (NCIC) of the
 4 California Historical Resources Information System (CHRIS). The sixty-five recorded
 5 cultural resources represent both the prehistoric and historic periods (see Table 4-1).

Table 4-1: Resources Listed with the North Central Information Center, CHRIS			
Resource #	Address	Period/Type	Name
P-31-000094	Not Listed	Prehistoric/Isolated artifact	Not Listed
P-31-000122	6201 Horseshoe Bar Road	Historic/House site	Not Listed
P-31-000123/ CA-PLA-807H	6262 Horseshoe Bar Road	Historic/House/outbuilding site	Not Listed
P-31-000124/ CA-PLA-808H	6262 Horseshoe Bar Road	Historic/Granite foundation	Not Listed
P-31-000125/ CA-PLA-809	Not Listed	Prehistoric/Bedrock milling feature	Not Listed
P-31-000126/ CA-PLA-810/H	Not Listed	Prehistoric/Bedrock milling feature Historic/Mining features, refuse scatter	Not Listed
P-31-000179/ CA-PLA-153	Not Listed	Prehistoric/Bedrock milling features, lithic scatter	Not Listed
P-31-000423/ CA-PLA-297/H	Not Listed	Prehistoric/Bedrock milling features Historic/Granite quarry	Not Listed
P-31-000618/ CA-PLA-492/H	Not Listed	Historic/Hotel site, refuse scatter	Bradley House
P-31-000620/ CA-PLA-494	Not Listed	Prehistoric/Bedrock milling features	Not Listed

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Table 4-1: Resources Listed with the North Central Information Center, CHRIS			
Resource #	Address	Period/Type	Name
P-31-000796/ CA-PLA-760H	Not Listed	Historic/Water conveyance feature	Boardman Canal segment
P-31-000845/ CA-PLA-719	Not Listed	Prehistoric/Bedrock milling feature	Not Listed
P-31-000964/ CA-PLA-841H	Not Listed	Historic/Railroad	Southern Pacific Railroad
P-31-001006/ CA-PLA-880H	Not Listed	Historic/Mining features	Not Listed
P-31-001208	3342 Humphrey Road	Historic/House site	Not Listed
P-31-001209	3342 Humphrey Road	Historic/Outbuilding site	Not Listed
P-31-001211/ CA-PLA-966H	Not Listed	Historic/Water conveyance feature	Red Ravine Canal segment
P-31-001240/ CA-PLA-982H	Not Listed	Historic/Railroad features	Southern Pacific Railroad
P-31-001293/ CA-PLA-1000H	Not Listed	Historic/Refuse scatter	Not Listed
P-31-001295/ CA-PLA-1003H	Not Listed	Historic/Roadway	Lincoln-Victory Highway/ US Highway 40
P-31-001507/ CA-PLA-1172H	Not Listed	Historic/Water conveyance feature	Antelope Canal segment
P-31-001508/ CA-PLA-1173H	Not Listed	Historic/Rock wall	Not Listed
P-31-001514	Not Listed	Historic/Water conveyance feature	Not Listed
P-31-001515	5373 No Name Lane	Historic/Single family property	Not Listed

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Table 4-1: Resources Listed with the North Central Information Center, CHRIS			
Resource #	Address	Period/Type	Name
P-31-001516	3300 Humphry Road	Historic/Single family property	Not Listed
P-31-001517	3296 Humphrey Road	Historic/Single family property	Not Listed
P-31-001524/ CA-PLA-1182H	Not Listed	Historic/Mining features	Laird Hydraulic Mine
P-31-001525/ CA-PLA-1193H	Not Listed	Historic/House site	Laird House
P-31-001531/ CA-PLA-1189H	Not Listed	Historic/House, outbuilding site	Not Listed
P-31-001552/ CA-PLA-1208H	5775 Horseshoe Bar Road	Historic/Railroad depot	Loomis Depot
P-31-001553/ CA-PLA-1209H	5750 Horseshoe Bar Road	Historic/Commercial building	Blue Anchor Fruit Packing Shed
P-31-002466/ CA-PLA-1763H	3241 Taylor Road	Historic/Commercial building	Alice's Fruit Stand
P-31-003154/ CA-PLA-1271H	Not Listed	Historic/Water retention feature	Not Listed
P-31-003262	3616 Laird Street	Historic/Single family property	Not Listed
P-31-003263	3621 Laird Street	Historic/Single family property	Not Listed
P-31-003264	3661 Library Drive	Historic/Single family property	Not Listed
P-31-003265	Not Listed	Historic/Outbuilding	Not Listed
P-31-003266	5913 Horseshoe Bar Road	Historic/Commercial building	Valerie's Gallery

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Table 4-1: Resources Listed with the North Central Information Center, CHRIS			
Resource #	Address	Period/Type	Name
P-31-003267	5907 Horseshoe Bar Road	Historic/Single family property	Not Listed
P-31-003268	5901 Horseshoe Bar Road	Historic/Single family property	Not Listed
P-31-003269	5885 Horseshoe Bar Road	Historic/Single family property	Not Listed
P-31-003270	Not Listed	Historic/Horse trailer	Not Listed
P-31-003271	Not Listed	Historic/granite blocks, orchard	Not Listed
P-31-003272	Not Listed	Historic/Water conveyance feature	Not Listed
P-31-003273	Not Listed	Historic/Mining features	Not Listed
P-31-003274	Not Listed	Historic/Water conveyance feature	Not Listed
P-31-003514	Not Listed	Historic/Isolated artifact	Not Listed
P-31-003515	Not Listed	Prehistoric/Isolated artifact	Not Listed
P-31-003516	Not Listed	Historic/Fence	Not Listed
P-31-004342	Not Listed	Historic/Single family property	Not Listed
P-31-005050	7590 Dick Cook Road	Historic/Single family property	Not Listed
P-31-005067	3104 Humphrey Road	Historic/Single family property	Not Listed
P-31-005091	3900 Twin Palms Lane	Historic/Single family property	Not Listed
P-31-005418	3636 Taylor Road	Historic/Commercial building	Taco Tree

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Table 4-1: Resources Listed with the North Central Information Center, CHRIS			
Resource #	Address	Period/Type	Name
P-31-005980	5575 Cavitt Stallman Road	Historic/Ranch complex	Hawk Ranch
P-31-006029	Not Listed	Historic/House site	Not Listed
P-31-006030	Not Listed	Historic/House site	Not Listed
P-31-006051/ CA-PLA-2601H	Not Listed	Historic/Water conveyance feature	Not Listed
P-31-006108	Not Listed	Prehistoric/Bedrock milling feature	Not Listed
P-31-006109	Not Listed	Historic/Water conveyance feature	Not Listed
P-31-006110	Not Listed	Historic/Water conveyance feature	Not Listed
P-31-006111	Not Listed	Historic/Outbuilding site	Not Listed
P-31-006112	Not Listed	Historic/Outbuilding site	Not Listed
P-31-006113	5145 James Drive	Historic/Single family property, outbuildings	Not Listed
P-31-006147	Not Listed	Prehistoric/Rock art	Not Listed

Source: North Central Information Center, CHRIS, Files

1

2 Four buildings within the Loomis Planning Area are identified on the Placer County
 3 Built Environment Resource Directory, but are not included in the list of resources
 4 provided by NCIC (Table 4-1). The four buildings are listed in Table 4-2.

5

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Property #	Address	Year Built	Name
108889	Not listed	1890	Not listed
109407	6731 Horseshoe Bar Road	1900	Not listed
109408	6961 Horseshoe Bar Road	1900	Not listed
109411	6990 Horseshoe Bar Road	Not listed	Not listed

Source: Placer County Built Environment Resource Directory

1

2 There are no properties listed on the National Register of Historic Places within the
3 Loomis Planning Area (www.nrhp.gov).

4 **Consultation**

5 A check of the Sacred Lands files was made through the Native American Heritage
6 Commission on August 13, 2020. The NAHC identified contacts for the Loomis area,
7 and letters dated August 17, 2020 were sent on August 18, 2020 to Grayson Coney,
8 Cultural Director, Tsi Akim Maidu; Gene Whitehouse, Chairperson, United Auburn
9 Indian Community; Clyde Prout, Chairperson, Colfax-Todds Valley Consolidated
10 Tribe; and Pamela Cubbler, Treasurer, Colfax-Todds Valley Consolidated Tribe. The
11 letter to Mr. Coney was returned; it was resent on August 28, 2020 to an email
12 address provided on the NAHC list.

13 A letter and map of the Town boundaries was sent on May 15, 2020 to the Loomis
14 Basin Historical Society requesting information on their concerns. A second letter
15 was sent to the group on August 27, 2020. No reply has been received to date from
16 the group.

17 **Paleontology**

18 Among the natural resources deserving conservation and preservation, and possibly
19 existing within the Loomis Planning Area, are the often-unseen records of past life
20 buried in the sediments and rocks below the pavement, buildings, soils, and

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1 vegetation which now cover most of the area. Fossils constitute a non-renewable
2 resource: Once lost or destroyed, the exact information they contained can never be
3 reproduced.

4 Paleontology is the science that attempts to unravel the meaning of these fossils in
5 terms of the organisms they represent, the ages and geographic distribution of
6 those organisms, how they interacted in ancient ecosystems and responded to past
7 climatic changes, and the changes through time of all of these aspects.

8 The sensitivity of a given area or body of sediment with respect to paleontological
9 resources is a function of both the potential for the existence of fossils and the
10 predicted significance of any fossils which may be found there. The primary
11 consideration in the determination of paleontological sensitivity of a given area,
12 body of sediment, or rock formation is its potential to include fossils. Information
13 that can contribute to assessment of this potential includes: (1) direct observation of
14 fossils within the Planning Area; (2) the existence of known fossil localities or
15 documented absence of fossils in the same geologic unit (e.g., "Formation" or one of
16 its subunits); (3) descriptive nature of sedimentary deposits (such as size of included
17 particles or clasts, color, and bedding type) in the area of interest compared with
18 those of similar deposits known elsewhere to favor or disfavor inclusion of fossils;
19 and (4) interpretation of sediment details and known geologic history of the
20 sedimentary body of interest in terms of the ancient environments in which they
21 were deposited, followed by assessment of the favorability of those environments
22 for the preservation of fossils.

23 The most general paleontological information can be obtained from geologic maps,
24 but geologic cross sections (slices of the layer cake to view the third dimension)
25 must be reviewed for each area in question. These usually accompany geologic
26 maps or technical reports. Once it can be determined which formations may be
27 present in the subsurface, the question of paleontological resources must be
28 addressed. Even though a formation is known to contain fossils, they are not usually
29 distributed uniformly throughout the many square miles the formation may cover. If
30 the fossils were part of a bay environment when they died, perhaps a scattered
31 layer of shells will be preserved over large areas. If on the other hand, a whale died
32 in this bay, you might expect to find fossil whalebone only in one small area of less
33 than a few hundred square feet. Other resources to be considered in the

1 determination of paleontological potential are regional geologic reports, site records
2 on file with paleontological repositories and site-specific field surveys.

3 Paleontologists consider all vertebrate fossils to be of significance. Fossils of other
4 types are considered significant if they represent a new record, new species, an
5 oldest occurring species, the most complete specimen of its kind, a rare species
6 worldwide, or a species helpful in the dating of formations. However, even a
7 previously designated low potential site may yield significant fossils.

8 Although most of the Loomis Planning Area is of low sensitivity in the igneous
9 Penryn and Rocklin Pluton, three portions of the Loomis Planning Area have a
10 higher sensitivity for the presence of fossils. Scattered outcrops of the Mehrten
11 formation are exposed in the northwest and southeast portion of the Loomis
12 Planning Area (See Figure 7-1 Geologic Map). The Mehrten Formation consists
13 primarily of volcanic mudflow and ash deposits and also includes occasional beds of
14 andesitic boulders, cobbles and gravels in a sandstone matrix, and dates to the late
15 Pliocene-early Miocene age. There are lone Formation outcrops located at the
16 southeastern portion of the Loomis Study Area. This formation is derived from
17 fluvial, estuarine, and shallow marine deposits from the Eocene. There are also two
18 small areas of undivided Older Alluvium, of early to late Pleistocene age in the
19 southeast portion of the Loomis Planning Area.

20 **REGULATORY SETTING**

21 **Federal**

22 ***National Historic Preservation Act***

23 Most regulations at the federal level stem from the National Environmental Policy
24 Act (NEPA) and historic preservation legislation such as the National Historic
25 Preservation Act (NHPA) of 1966, as amended. NHPA established guidelines to
26 “preserve important historic, cultural, and natural aspects of our national heritage,
27 and to maintain, wherever possible, an environment that supports diversity and a
28 variety of individual choice.” The NHPA includes regulations specifically for federal

CULTURAL AND HISTORIC RESOURCES

1 land-holding agencies, but also includes regulations (Section 106) which pertain to
2 all projects that are funded, permitted, or approved by any federal agency and
3 which have the potential to affect cultural resources. All projects that are subject to
4 NEPA are also subject to compliance with Section 106 of the NHPA and NEPA
5 requirements concerning cultural resources. Provisions of NHPA establish a National
6 Register of Historic Places (The National Register) maintained by the National Park
7 Service, the Advisory Councils on Historic Preservation, State Historic Preservation
8 Offices, and grants-in-aid programs.

9 ***American Indian Religious Freedom Act and Native American Graves*** 10 ***and Repatriation Act***

11 The American Indian Religious Freedom Act recognizes that Native American
12 religious practices, sacred sites, and sacred objects have not been properly
13 protected under other statutes. It establishes as national policy that traditional
14 practices and beliefs, sites (including right of access), and the use of sacred objects
15 shall be protected and preserved. Additionally, Native American remains are
16 protected by the Native American Graves and Repatriation Act of 1990.

17 ***Other Federal Legislation***

18 Historic preservation legislation was initiated by the Antiquities Act of 1966, which
19 aimed to protect important historic and archaeological sites. It established a system
20 of permits for conducting archaeological studies on Federal land, as well as setting
21 penalties for noncompliance. This permit process controls the disturbance of
22 archaeological sites on Federal land. New permits are currently issued under the
23 Archeological Resources Protection Act (ARPA) of 1979. The purpose of ARPA is to
24 enhance preservation and protection of archaeological resources on public and
25 Native American lands. The Historic Sites Act of 1935 declared that it is national
26 policy to "Preserve for public use historic sites, buildings, and objects of national
27 significance."

1 **State**

2 ***California Register of Historic Resources (CRHR)***

3 California State law also provides for the protection of cultural resources by
4 requiring evaluations of the significance of prehistoric and historic resources
5 identified in documents prepared pursuant to the California Environmental Quality
6 Act (CEQA). Under CEQA, a cultural resource is considered an important historical
7 resource if it meets any of the criteria found in Section 15064.5(a) of the CEQA
8 Guidelines. Criteria identified in the CEQA Guidelines are similar to those described
9 under the NHPA. The State Historic Preservation Office (SHPO) maintains the CRHR.
10 Historic properties listed, or formally designated for eligibility to be listed, on The
11 National Register are automatically listed on the CRHR. State Landmarks and Points
12 of Interest are also automatically listed. The CRHR can also include properties
13 designated under local preservation ordinances or identified through local historical
14 resource surveys.

15 ***California Environmental Quality Act (CEQA)***

16 CEQA requires that lead agencies determine whether projects may have a significant
17 effect on archaeological and historical resources. This determination applies to
18 those resources which meet significance criteria qualifying them as “unique,”
19 “important,” listed on the California Register of Historic Resources (CRHR), or eligible
20 for listing on the CRHR. If the agency determines that a project may have a
21 significant effect on a significant resource, the project is determined to have a
22 significant effect on the environment, and these effects must be addressed. If a
23 cultural resource is found not to be significant under the qualifying criteria, it need
24 not be considered further in the planning process.

25 CEQA emphasizes avoidance of archaeological and historical resources as the
26 preferred means of reducing potential significant environmental effects resulting
27 from projects. If avoidance is not feasible, an excavation program or some other
28 form of mitigation must be developed to mitigate the impacts. In order to
29 adequately address the level of potential impacts, and thereby design appropriate
30 mitigation measures, the significance and nature of the cultural resources must be

CULTURAL AND HISTORIC RESOURCES

1 determined. The following are steps typically taken to assess and mitigate potential
2 impacts to cultural resources for the purposes of CEQA:

- 3 > identify cultural resources,
- 4 > evaluate the significance of the cultural resources found,
- 5 > evaluate the effects of the project on cultural resources, and
- 6 > develop and implement measures to mitigate the effects of the project on
7 cultural resources that would be significantly affected.

8 Treatment of paleontological resources under CEQA is generally similar to treatment
9 of cultural resources, requiring evaluation of resources in a project's area of
10 potential affect, assessment of potential impacts on significant or unique resources,
11 and development of mitigation measures for potentially significant impacts, which
12 may include monitoring combined with data recovery and/or avoidance.

13 ***State Laws Pertaining to Human Remains***

14 Section 7050.5 of the California Health and Safety Code requires that construction
15 or excavation be stopped in the vicinity of discovered human remains until the
16 county coroner can determine whether the remains are those of a Native American.
17 If the remains are determined to be Native American, the coroner must contact the
18 California Native American Heritage Commission. CEQA Guidelines (Section 15064.5)
19 specify the procedures to be followed in case of the discovery of human remains on
20 non-Federal land. The disposition of Native American burials falls within the
21 jurisdiction of the Native American Heritage Commission.

22 Several sections of the California Public Resources Code protect paleontological
23 resources.

24 Section 5097.5 prohibits "knowing and willful" excavation, removal, destruction,
25 injury, and defacement of any "vertebrate paleontological site, including fossilized
26 footprints," on public lands, except where the agency with jurisdiction has granted
27 express permission. "As used in this section, 'public lands' means lands owned by, or
28 under the jurisdiction of, the state, or any city, county, district, authority, or public
29 corporation, or any agency thereof."

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1 California Public Resources Code, Section 30244 requires reasonable mitigation for
2 impacts on paleontological resources that occur as a result of development on
3 public lands.

4 The sections of the California Administrative Code relating to the State Division of
5 Beaches and Parks (now Department of Parks and Recreation) afford protection to
6 geologic features and “paleontological materials” but grant the director of the State
7 park system authority to issue permits for specific activities that may result in
8 damage to such resources, if the activities are in the interest of the State Park
9 system and for State Park purposes (California Administrative Code, Title 14, Section
10 4307–4309).

11 ***Senate Bill 18 (Burton, Chapter 905, Statutes 2004)***

12 SB 18, authored by Senator John Burton and signed into law by Governor Arnold
13 Schwarzenegger in September 2004, requires local (city and county) governments to
14 consult with California Native American tribes to aid in the protection of traditional
15 tribal cultural places (“cultural places”) through local land use planning. This
16 legislation, which amended §65040.2, §65092, §65351, §65352, and §65560, and
17 added §65352.3, §653524, and §65562.5 to the Government Code; also requires the
18 Governor’s Office of Planning and Research (OPR) to include in the General Plan
19 Guidelines advice to local governments on how to conduct these consultations. The
20 intent of SB 18 is to provide California Native American tribes an opportunity to
21 participate in local land use decisions at an early planning stage, for the purpose of
22 protecting, or mitigating impacts to, cultural places. These consultation and notice
23 requirements apply to adoption and amendment of both general plans (defined in
24 Government Code §65300 et seq.) and specific plans (defined in Government Code
25 §65450 et seq.).

26 ***Assembly Bill 52 (Chapter 532, Statutes of 2014)***

27 Assembly Bill (“AB”) 52 establishes a formal consultation process for California tribes
28 as part of CEQA and equates significant impacts on “tribal cultural resources” with
29 significant environmental impacts (PRC Section 21084.2). AB 52 defines a “California
30 Native American Tribe” as a Native American tribe located in California, and included
31 on the contact list maintained by the Native American Heritage Commission. AB 52

CULTURAL AND HISTORIC RESOURCES

1 requires formal consultation with California Native American Tribes prior to
2 determining the level of environmental document if a tribe has requested to be
3 informed by the lead agency of proposed projects. AB 52 also requires that the
4 consultation address project alternatives and mitigation measures, for significant
5 effects, if requested by the California Native American Tribe, and that consultation
6 be considered concluded when either the parties agree to measures to mitigate or
7 avoid a significant effect, or the agency concludes that mutual agreement cannot be
8 reached.

9 **Local**

10 The Town of Loomis General Plan goals and policies can be found in the
11 Conservation of Resources Element (Chapter VII) in General Plan Volume I. The
12 Town's goals are to preserve and replicate historic areas of town that contribute to
13 the Town's distinct character and to encourage cultural facilities and events. Policies
14 address historic building revitalization and restoration, expansion of cultural
15 facilities and programs, and protection of archaeological sites.

Chapter

5

PUBLIC SERVICES & FACILITIES

1



1 **PUBLIC SERVICES & FACILITIES**

2 **INTRODUCTION**

3 Development within the Planning Area depends on an elaborate network of public
4 services and utilities. This chapter describes these services, including law
5 enforcement, fire protection, schools, libraries, water and sewer services, drainage,
6 solid waste, gas service, and electrical service. Roadways and transit services are
7 discussed in Chapter 2, Circulation.

8 **PUBLIC SERVICES**

9 **Law Enforcement**

10 Law enforcement services are provided in Loomis by the Placer County Sheriff's
11 Department. The department operates from the South Placer Substation located at
12 6140 Horseshoe Bar Road and Interstate 80 in Loomis. The South Placer Substation
13 staff include one commander, 36 patrol officers, a community services/school safety
14 sergeant, eight school resource deputies, one field community services officer, six
15 patrol sergeants, three community service officers, three detectives, other
16 professional staff, and numerous volunteers. Deputies from this substation provide
17 24-hour protection.

18 The crime rate in Loomis is relatively low and calls for law enforcement services are
19 usually directed at the protection of property rather than responding to crimes
20 against persons. The Department has found that community involvement programs,
21 such as Neighborhood Watch, are particularly effective in assisting the efforts of
22 Sheriff's patrols. Crime rates for 2018 and 2019 are shown as follows in Table 5-1:

PUBLIC SERVICES & FACILITIES

Table 5-1: Law Enforcement Service Calls in Loomis			
Calls for Service	2018	2019	Percent Change
Crimes Against Persons (Loomis)	50	51	+2% (although only 1 additional call)
Property Crimes (Loomis)	202	188	-7%
Total Service Calls	2,392	2,282	-4% (No change per the Department)
Total Calls Including Deputy Initiated Calls	4,130	3,877	-6%

Source: Placer County Sheriff's Department, 2020.

1

2 Response times average about 5.2 minutes for priority one (more critical) calls and
 3 6.5 minutes for priority two calls for years 2018/19 (Silva, 2020). Currently, the Town
 4 pays for 0.5 Lieutenants, 4.25 Deputies, 0.5 Detectives, and one Traffic Deputy,
 5 totaling 6.25 personnel paid for by the Town of Loomis; however, a total of 14 law
 6 enforcement personnel work out of the South Placer Substation in Loomis and
 7 serve the area (Silva, 2020). The Placer County General Plan goal for service is 1:1000
 8 residents. With an estimated population of 6,866 Loomis residents in 2019, the ratio
 9 of deputies specifically paid for by the Town to Loomis residents is 1:1,098 or based
 10 on the 14 personnel assigned to the South Placer Substation, the ratio is 1:492 or
 11 2:1,000 (Silva, 2020). Based on the County standard and the number of deputies
 12 paid for by the Town, the ratio of deputies to residents is slightly exceeded, and
 13 payment for an additional 0.62 deputies are needed to meet that standard. Based
 14 on actual sworn personnel available to serve the Town out of the substation, the
 15 standard is fully met. As the Town grows or should larger commercial facilities
 16 develop within the Town, funding for an additional deputy sheriff or full-time
 17 detective may be beneficial (Silva 2020).

18 **Fire Protection**

19 The Loomis Fire Protection District (LFPD) consolidated with the South Placer Fire
 20 District (SPFD) in 2017 and operates as the SPFD. The SPFD serves nearly all of the
 21 Planning Area. The California Department of Forestry and Fire Protection (CAL FIRE)

PUBLIC SERVICES & FACILITIES

1 also provides fire protection services, particularly with regard to rural wildland fires.
2 These agencies and their service abilities are described below, and service areas are
3 depicted in Figure 5-1.

4 Small portions of the northern Town limits are served by the Penryn Fire Protection
5 District (PFPD). Mutual aid and automatic aid agreements are in place with the PFPD
6 and CAL FIRE.

7 ***South Placer Fire District***

8 SPFD provides fire protection, fire suppression, emergency medical service, open
9 area (wildlands) fire protection, assists in search and rescue operations and removal
10 of hazardous materials. The SPFD operates out of five staffed stations and one
11 volunteer station to serve the communities of Loomis, Granite Bay, and the
12 southern areas of Penryn and Newcastle, and covering an area of 55 square miles
13 with 42,000 residents. There are two stations within Loomis. Station 18 is located at
14 5840 Horseshoe Bar Road in the heart of Downtown Loomis, and is staffed with a
15 captain, engineer, and paramedic firefighter. Apparatus located at Station 18
16 includes an engine, brush truck, and an all-terrain vehicle. The location of this
17 station allows for quick response to fire hazards along I-80, the railroad, high
18 pressure underground pipeline, and the wildland urban interface. Although fully
19 operational, SPFD is proposing to increase the size of Station 18, however, that
20 project has been delayed due to Covid-19 and construction costs. Station 20 is
21 located at 3505 Auburn Folsom Road in Loomis and is located furthest north within
22 the service area. This station operates with a captain paramedic engineer and a
23 paramedic/firefighter, and includes a medic unit, grass unit, and an engine. The
24 location of this station provides primarily for wildland fire response and emergency
25 medical response. Both stations provide advanced life support (ALS) services. All
26 District personnel are Emergency Medical Technicians (EMT) or Paramedics, the
27 latter who have an expanded scope of medical practice to include advanced
28 lifesaving skills. SPFD includes an EMS Division that is headed by an EMS Officer and
29 a Medical Director who is a local emergency room physician (SPFD June 3, 2021).

30 SPFD uses a 48/96 work schedule in which staff work two days on and four days off
31 in rotation. Approximately 8,000 responses to 6,000 calls are made annually, of

PUBLIC SERVICES & FACILITIES

1 which 75 percent are medical, 13 percent are fire-related, and 12 percent are other
 2 service or false calls (SPFD June 3, 2021).

3 SPFD indicates there are no areas of Loomis that are not served or that have
 4 insufficient infrastructure for service. The Insurance Service Office (ISO), a national
 5 rating service sponsored by fire insurance carriers to measure fire-fighting capability
 6 to reduce structural fire losses, provides rankings of fire-fighting capability on a scale
 7 of 1 - 10 with 1 being best. The SPFD fire services are rated 3 (Placer County Local
 8 Hazard Mitigation Plan, March 2016 and SPFD June 3, 2021).

9 SPFD operating costs are financed from three property related tax sources: a
 10 general property tax; a benefit assessment tax of \$70 per parcel or irrigated farm,
 11 \$0.05 per square foot of commercial unit, \$20 per mobile home unit, and an
 12 additional \$2.00 per acre of land, and a special zone of benefit assessment limited
 13 to non-residential developments that occur within the District. Mitigation/impact
 14 fees and other smaller revenue sources also fund SPFD. The separate benefit
 15 assessment applies to zones created for each such new development. Currently,
 16 new development within the SPFD service area is required to pay a fire impact fee
 17 based on the type of use and size of the proposed structure. These fees fund fire
 18 facilities, apparatus, and equipment. The fees are:

Land Use Category	Maximum Fee
Residential Development	
	Per Living Sq. Ft.
Single-Family Housing	\$0.81
Multi-Family Housing	\$1.41
Mobile Home	\$0.97
Assisted Living Facility	\$0.89
Nonresidential Development	
	Per Building Sq. Ft.
Retail/Commercial	\$1.32
Office	\$1.70
Industrial	\$1.05
Agriculture	\$0.53
Warehouse/Distribution	\$0.87

19 Source: SPFD 2018/2019 Annual Report, 12/13/19

Note: ¹ The fire impact fee is rounded to the nearest whole cent.

PUBLIC SERVICES & FACILITIES

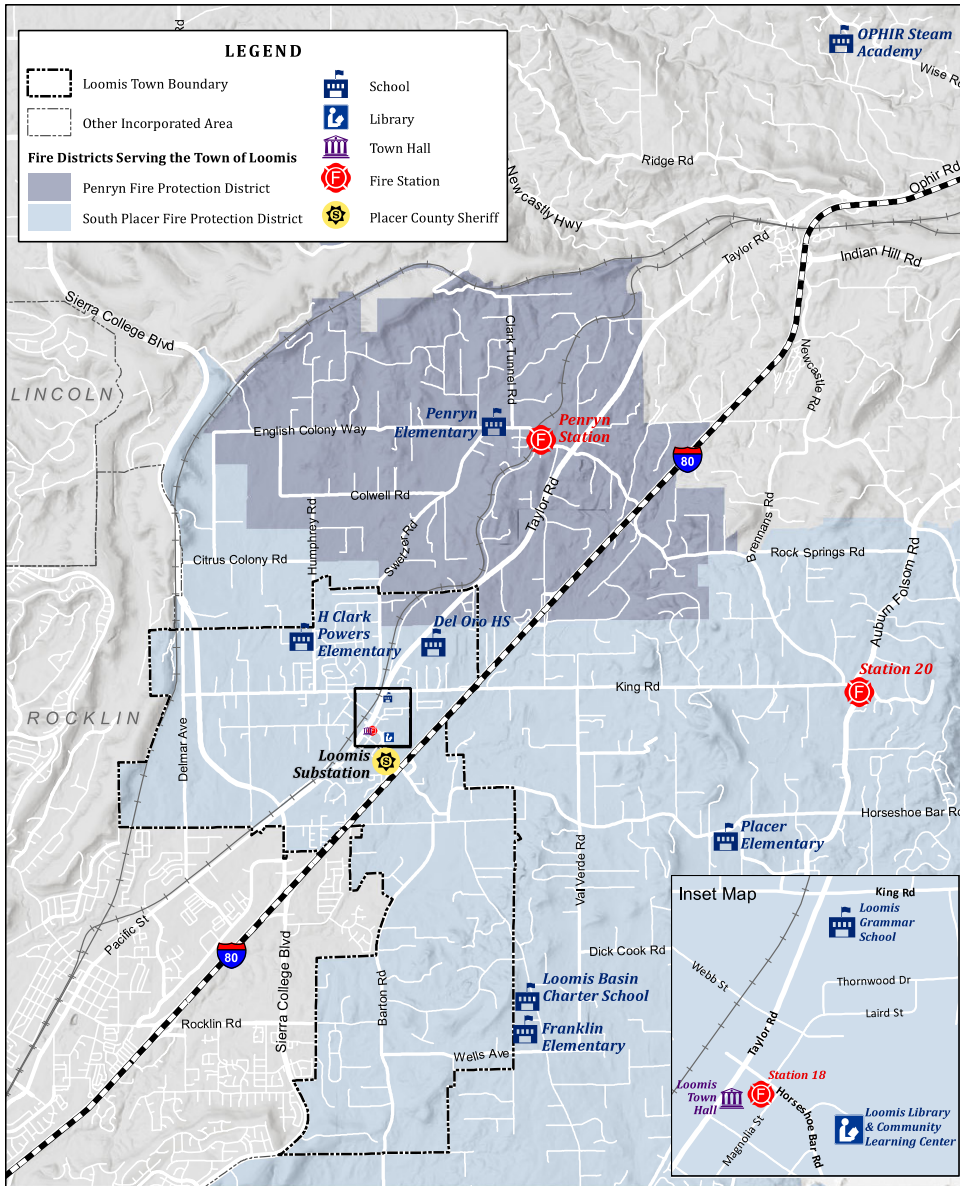
1 All money collected helps pay the annual SPFD budget which was budgeted for
2 2019/2020 for expenditures of \$13,988,068 (\$11,677,956. operational expenditures
3 such as salaries operations and fixed assets, \$1,617,261 in capital expenditures
4 reserve account, \$355,000 in California Fire Agreement Assistance through the State
5 Office of Emergency Services, and other general capital expenditures and
6 mitigation). The estimated revenue was \$13,448,641 (\$12,678,641 in general
7 revenue, \$415,000 in mitigation/development fee revenue, and \$355,000 in
8 California Fire Agreement Assistance funds). The 2020/21 budget is also nearly
9 \$14,000,000. SPFD indicates they are, "currently considering pursuing a voter
10 approved special tax with a consumer price index adjustment in the former South.
11 Placer Fire District Service area prior to the merger in July 2017 with Loomis Fire. The
12 costs associated with providing fire services is always increasing and the District is
13 continuously trying to find ways to be more efficient while being sensitive to the
14 taxpayers of the communities we serve" (SPFD, June 3, 2021).

15 ***Penryn Fire Protection District***

16 The Penryn Fire District operates one fire station located on Church Street, off
17 English Colony Way, in Penryn. The station serves about 6,000 residents, very few of
18 whom live within the Loomis Planning Area. The PFPD covers an area of 10.5 square
19 miles and serves 1,164 residences, and 63 businesses. Only two percent of the
20 service area is within Loomis. The district receives about 500 calls per year, about 42
21 percent of which are related to fire incidents Two personnel staff the station 24
22 hours a day with assistance from Intern Firefighters. Staff provide a variety of
23 resources including equipment operation, hazardous materials, swift water rescue,
24 fire prevention, and training and safety, among others. Station equipment includes
25 three engines and a command vehicle. Response times range from five to eight
26 minutes. The PFPD would like to increase staffing from two to three staff members
27 on duty at all times to expand medical response capabilities and service. Property
28 taxes, Measure C, Measure A, and other means such as inspection fees and other
29 services fund the PFPD (Penryn Fire Protection. District, Strategic Plan 2019-2024).
30 The ISO rating for the district is 3/3x. PFPD indicates there are no areas in Loomis
31

PUBLIC SERVICES & FACILITIES

1 **Figure 5-1: Public Service Areas**



2

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1 that they serve in which there is insufficient fire protection infrastructure and the
2 PFPD has no current issues in providing adequate service in relation to staffing or
3 equipment. Additionally, PFPD indicates there are no existing funding deficiencies.
4 Future vegetation and roadway maintenance within the Town will help PFPD to
5 continue to provide quality service to Loomis (Penryn Fire Protection District,
6 October 30, 2020).

7 ***California Department of Forestry and Fire Protection CAL FIRE***

8 The entire Planning Area is served by the California Department of Forestry. And Fire
9 Protection (CAL FIRE). This agency is responsible for controlling wildland fires in the
10 unincorporated areas of the state. Loomis is served by the Nevada-Yuba-Placer CAL
11 FIRE unit and is not located within a High Fire Hazard Severity Zone but is adjacent
12 to the moderate fire hazard severity zone. In Placer County, CAL FIRE operates
13 stations in Auburn, Lincoln, Colfax, Foresthill, Alta, and Higgins. The Auburn or
14 Lincoln stations are most likely to serve the Planning Area, but all stations could
15 respond in the event of a major wildfire. No Very High Fire Severity Zones have been
16 designed by California Department of Forestry and Fire Protection (CAL FIRE) in the
17 Planning Area. Rural areas immediately adjacent to the north and east of the
18 Planning Area are located within a State Responsibility Area, meaning that CAL FIRE
19 is primarily responsible for fire-fighting efforts, and these areas have been identified
20 by CAL FIRE as moderate fire hazard severity zones. Finally, the Town has designated
21 a small portion of the Planning Area south of Brace Road, southwest of Secret
22 Ravine, as a High Fire Hazard Severity Zone (see Volume III, Chapter 7, Figure 7-5).

23 **Schools**

24 ***Facilities and Enrollment***

25 The Loomis Planning Area encompasses portions of two school districts: Placer
26 Union High School District (PUHSD) and Loomis Union School District (LUSD). The
27 entire Planning Area lies within the PUHSD, which serves grades 9-12, and within the
28 LUSD, which serves grades K-8. The facilities and enrollments within these districts
29 are described below.

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1 **Placer Union High School District.** Placer Union High School District operates
2 several high schools within its far-reaching boundaries. Del Oro High School lies
3 within the Planning Area, and is the only one to serve Planning Area residents. Its
4 current capacity is 1,750. The school's enrollment of about 1,750, which includes the
5 school's acceptance of approximately 300 inter-district transfers from other
6 communities, indicates it operates at capacity (Sziraki, 2020). Table 5-1 shows the
7 enrollment and capacity of Del Oro High School.

8 **Loomis Union School District.** There are seven elementary schools within the LUSD,
9 including one charter school. Each of the schools serve grades TK-8. The current
10 enrollment districtwide is essentially equal to the existing capacity of the facilities,
11 with some schools operating above the capacity limit as shown in Table 5-2. Portable
12 classrooms are used to house excess enrollment. With the introduction of the
13 statewide Class Size Reduction Program and ongoing growth in Loomis, Rocklin, and
14 the surrounding County, the demand for new facilities has increased, and the
15 shortage of space is exacerbated. Table 5-1 shows the current capacity and
16 enrollment within Planning Area schools. The District's 2018-2020 Report to the
17 Community estimates a 2% annual growth rate, gaining approximately 300 students
18 between 2019 and 2025.

19 **Facilities Funding**

20 Revenue for facilities construction comes from both state and local sources,
21 including developer fees. Both the PUHSD and LUSD participate in school
22 construction programs, whereby new development contributes half of the cost of
23 new facilities, while the remainder is supplied by state and local resident taxes.

24 The school districts charge developer fees for both new commercial and residential
25 development to fund facilities. As of July 1, 2020, PUHSD commercial construction
26 fees were \$0.264 per square foot and residential construction fees were \$3.19 per
27 square foot (PUHSD, 2020 Developer Fees Information,
28 <https://sites.google.com/puhsd.k12.ca.us/developerfees/Home>, site accessed May 3,
29 2021). LUSD's current developer fees, as of May 2021, are \$2.45 per square foot of
30 living space for residential development and \$0.40 per square foot for commercial
31 development (LUSD, Kim Chase, Personal Communication, May 6, 2021).

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Table 5-2: Planning Area School Capacity & Enrollment			
School	Capacity	Enrollment (2018-2019)	Percent of Capacity
Loomis USD			
Franklin Elementary	500	498	100%
Loomis Basin Charter	500	436	87%
H. Clarke Powers Elementary	500	505	101%
Loomis Grammar School	500	498	100%
Ophir STEAM Academy	250	214	86%
Penryn Elementary	250	243	97%
Placer Elementary	500	515	103%
<i>Total LUSD</i>	<i>3,000</i>	<i>2,909*</i>	<i>97%</i>
Placer UHSD			
Del Oro High (9-12)	1,750	1,750	100%
TOTAL all schools	4,750	4,659	98%

Source: 2018-2019 School Accountability Report Cards

*Total enrollment at LUSD was cited as 2,998 in the LUSD Report to the Community 2018-2020

1

2 PUHSD passed a general obligation bond (Measure D) in November 2018, which
 3 provided \$40 million to address facilities needs at Del Oro High School, specifically
 4 34 new classrooms as well as modernization, renovations, and upgrades to several
 5 again classrooms and facilities. This bond will be paid off through an additional
 6 property tax of \$27 per \$100,000 of assessed value through 2050.

7 **Libraries**

8 The Loomis Library and Community Learning Center (CLC) is the only library within
 9 the Planning Area and is located at 6050 Library Drive in Loomis. While previously a
 10 branch of the Auburn Placer County Library, the Loomis Library and CLC became an

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1 entity of the Town on March 1, 2019. As a Town entity, the Loomis Library and CLC
2 operates under appointees to the Mayor’s Library Board. The Loomis Library and
3 CLC is funded through the Town’s operating budget.

4 **Water & Sewer Services**

5 ***Water***

6 Most of the Town of Loomis is supplied by the Placer County Water Agency (PCWA).
7 However, some of the more rural portions of the Planning Area are not connected to
8 the PCWA’s infrastructure and are supplied by private wells. Each source of water is
9 described in greater detail below.

10 ***Placer County Water Agency***

11 The Placer County Water Agency (PCWA) provides retail and wholesale water service
12 throughout Placer County, including the Loomis community, which is in PCWA’s
13 lower Zone 6. Zone 6 extends from the Alta community on the east, along the
14 Interstate 80 corridor into western Placer County, including the cities of Auburn,
15 Rocklin, Lincoln, and Roseville, the Newcastle and Penryn communities, the Granite
16 Bay area, and vast areas of unincorporated Placer County including agricultural
17 lands west of the city of Lincoln.

18 PCWA has various sources of water for meeting the needs of its service area. Those
19 sources include two separate water supply contracts with PG&E, water obtained
20 from the American River pursuant to PCWA’s water rights for its Middle Fork
21 American River Project, supply from the Federal Central Valley Project, supplies
22 obtained from Canyon Creek, which are pre-1914 appropriative rights acquired from
23 PG&E, and water supplies obtained from groundwater sources within western
24 Placer County west of State Highway 65. Table 5-3 summarizes the water supplies
25 available to the PCWA.

26 PCWA estimates normal year demand to be 158,800 AFY, compared to a current
27 delivery capacity of 236,900 AFY. This includes water deliveries to a service
28 population of over 248,000 and 7,000 acres of agricultural land.

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Table 5-3: Water Available to the PCWA	
Water Source	Amount (AFY)
Yuba and Bear Rivers PG&E water supply contract	125,400
North Fork American River PCWA Middle Fork Project water rights	120,000
Folsom Reservoir Central Valley Project contract (Bureau of Reclamation)	35,000
Canyon Creek Pre-1914 water rights	~5,000
Groundwater (two wells presently, each capable of producing 1,000 acre-feet per year. Note: zero amount shown because PCWA utilizes groundwater sources for emergency or dry-year supplies only.)	--
TOTAL	285,400

Source: PCWA, 2020 and 2021

1

2 **Water Treatment, Storage, and Transmission/Distribution Facilities.** PCWA
 3 operates eight water treatment plants throughout its service area. The Town of
 4 Loomis is within PCWA's Foothill/Sunset water system, which is supplied from the
 5 Foothill Water Treatment Plant (WTP) and the Sunset WTP. The Foothill WTP has a
 6 present capacity of 60 million gallons per day (mgd) and the Sunset WTP has a
 7 present capacity of 5 mgd. The peak-day demand on this water system was 49.1
 8 mgd in 2020, resulting in 15.9 mgd of remaining capacity.

9 Two additional water treatment plants located in the Auburn area are the primary
 10 plants serving the Bowman, Auburn, and Newcastle areas. These two plants have a
 11 combined capacity of 15 mgd and are also able to support the Foothill WTP service
 12 area by means of a pipeline connecting the two water systems. Additional pipelines
 13 connecting the Auburn/Bowman water system to the Foothill/Sunset water system
 14 are planned in the future, allowing for even greater backup capacity to be conveyed
 15 from the upper system to the lower system.

16 To meet future water system demands that exceed PCWA's current water treatment
 17 plant capacity, PCWA is planning to construct a new water treatment plant known as
 18 the Ophir WTP. This plant is planned to be constructed along Ophir Road between

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1 Auburn and Newcastle and would likely be needed within the next 10 to 15 years,
2 depending on the pace of growth within PCWA's service area.

3 PCWA's treated water systems include numerous storage tanks in various locations
4 through its service area. Water storage for the Town of Loomis area is provided
5 directly from two locations. There is a 10-million-gallon water storage tank at the
6 Foothill WTP and a 1-million-gallon water storage tank within the Penryn area.
7 These storage tanks provide operational and emergency water storage to the Town
8 of Loomis and surrounding area. According to the PCWA 2020 Year End Report,
9 there are 3,052 treated water customers in Loomis and 1,332 untreated water
10 customers (PCWA, 2020 Year End Report, [https://imgix.cosmicjs.com/492aa9a0-
11 6658-11eb-8120-dfe8ec2b682f-Year-End-Report-2020FINAL.pdf](https://imgix.cosmicjs.com/492aa9a0-6658-11eb-8120-dfe8ec2b682f-Year-End-Report-2020FINAL.pdf)).

12 The main transmission pipelines that convey water from the Foothill WTP to the
13 Town of Loomis include 48-inch and 30-inch transmission pipelines from the WTP to
14 Taylor Road in the Penryn area, a 24-inch pipeline along Taylor Road between
15 Penryn and Loomis, and 24-inch and 18-inch pipelines that generally convey water
16 on the southeast side of Interstate 80 toward the Granite Bay area, with connecting
17 pipelines to Loomis in Horseshoe Bar Road, Brace Road, Laird Road, and Wells
18 Avenue. A future pipeline is planned for Barton Road between Brace Road and La
19 Vista Drive.

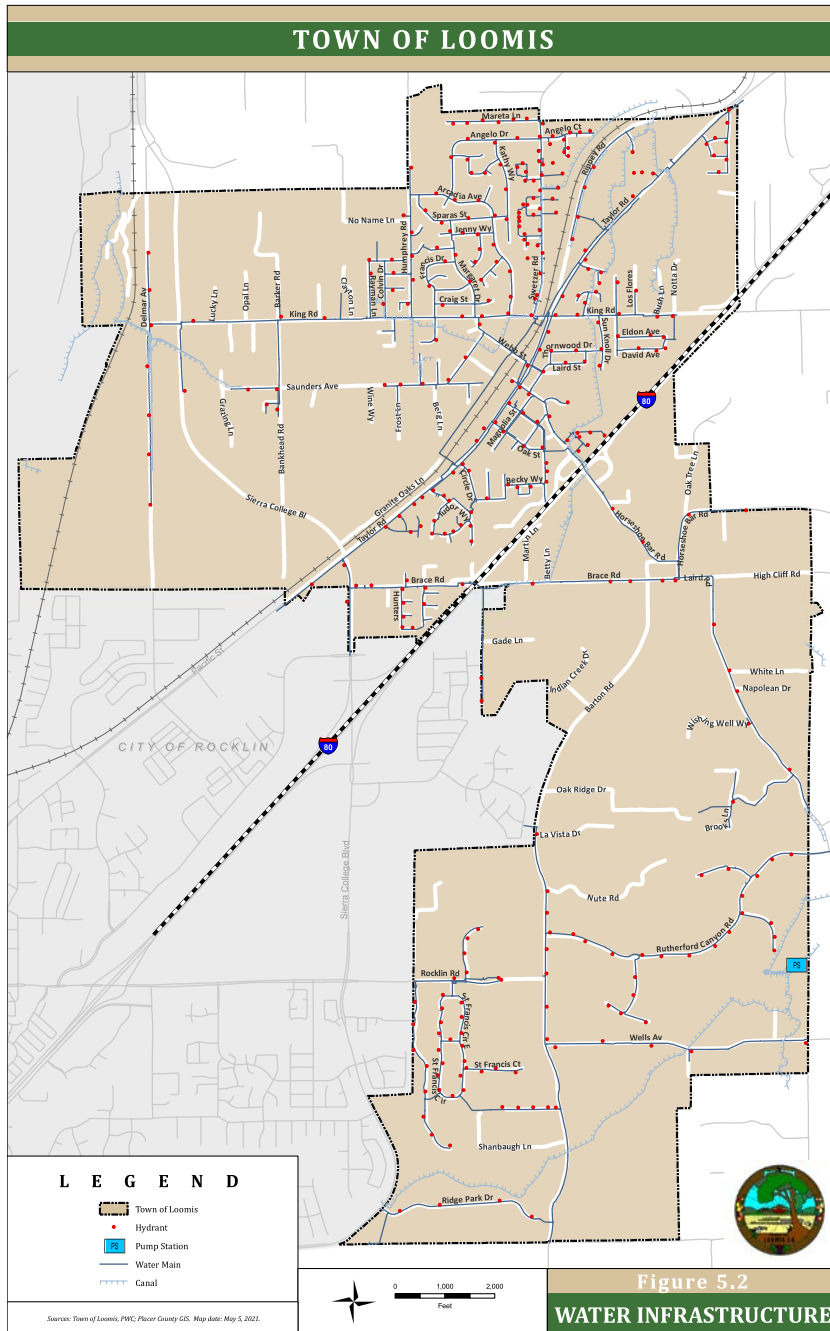
20 In addition to treated water (drinking water) service to the Town of Loomis and
21 surrounding areas, PCWA also operates and maintains an untreated, or canal water,
22 system of canals and pipes that provides untreated irrigation water service. This
23 system of canals and pipes dates back to the 1800s and continues to deliver
24 irrigation water in units of miners inches to PCWA customers throughout the Town
25 of Loomis and surrounding areas (PCWA, Personal Communication April 28, 2021).

26 Figure 5-2 shows the major lines in the PCWA water distribution network within the
27 Loomis Planning Area.

28 **System Deficiencies.** PCWA identifies no major transmission problems with the
29 distribution system in the Planning Area and does not indicate there are any
30 deficiencies in the service system within the Town or in relation to infrastructure
31

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1 **Figure 5-2: Water Distribution Network**



2

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1 ultimately serving the Town. PCWA indicates the existing water distribution system
2 within the Town is robust and can be extended from existing infrastructure to meet
3 the needs of new development activity. There is no indication that PCWA's water
4 supplies are insufficient or unable to meet the Town's future needs (Personal
5 Communication, Brent Smith, PCWA, April 27, 2021).

6 Private Wells. Portions of the Loomis community do not have access to the PCWA's
7 distribution system and are supplied by private wells. The rural residential
8 properties along Barton Road are within the largest area in Loomis not served by
9 the PCWA. Groundwater distribution in the Planning Area is sporadic and well yield
10 is highly variable. The average production of wells in the area is 4 to 9 gallons per
11 minute. Water quality varies with the source. Granitic rock wells provide the best
12 water quality in the area and many of the area's wells are of this type. Wells
13 overlying alluvial deposits vary from low to moderate quality. Many wells in the area
14 experience iron and manganese contamination, sometimes associated with low
15 yield. Please refer to Volume III, Chapter 3, Section *Groundwater Resources*, for
16 further discussion of ~~this issue~~ groundwater resources and wells in the Planning
17 Area.

18 ***Wastewater***

19 Most of the Planning Area is connected to wastewater collection infrastructure, a
20 service provided by the South Placer Municipal Utility District (SPMUD). SPMUD
21 operates under a joint-powers agreement between the City of Roseville, SPMUD,
22 and Placer County, and funds a recycled water facility, sewer trunk lines, and two
23 wastewater treatment plants. Serving Loomis, Rocklin, Penryn, Newcastle, and
24 portions of Granite Bay, SPMUD's service area covers over 18,560 acres and serves
25 34,530 equivalent dwelling units (EDUs) through 280 miles of mainline pipe that
26 ranges in size from 4 to 54 inches in diameter, 6,000 manholes, 13 lift stations and
27 10 permanent flow monitoring stations. Most connections are residential.

28 Currently SPMUD averages dry-weather flows of 4.62 mgd and wet-weather flows of
29 8.67 mgd. By 2060, SPMUD projects the total number of EDUs served will increase to
30 46,850, resulting in average dry-weather flows of 6.95 mgd and average wet-weather
31 flows of 15.99 mgd (SPMUD Sewer Participation Nexus Fee Study 2020).

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1 The Town of Loomis falls within three SPMUD Wards. Ward 3 includes the portions
 2 of Loomis south of I-80, Ward 4 includes the portion of Loomis north of King Road,
 3 and Ward 5 includes west and central portions of Loomis between I-80 and King
 4 Road (SPMUD 2020).

5 There are three larger sized sewer lines that serve the Town of Loomis, including a
 6 15-inch line near Taylor Road (Lower Loomis Trunk), a combination 15-inch and 18-
 7 inch line south of Horseshoe Bar Road and along Brace Road and Dias Lane (Loomis
 8 Diversion Line), and a 10-inch line that serves the southern portion of the Town near
 9 Barton Road and Monte Claire Lane. SPMUD provides access to a district-wide
 10 interactive map showing the location and size of the service lines and sewer facilities
 11 in Loomis at: <https://spmud.ca.gov/district-map>. In total, there are over 183,311 feet
 12 of sewer lines serving the Town of Loomis, as detailed in Table 5-4:

Table 5-4: SPMUD Sewer Infrastructure in Loomis		
Pipe Diameter (inches)	Number of Pipelines	Total Length (feet)
4	7	4,135
6	383	88,183
8	259	54,606
10	78	18,479
12	40	11,015
15	19	5,112
18	7	1,781
Total:	793	183,311

Source: SPMUD, 2020

13

14 The South Placer Wastewater Authority (SPWA) was created by the City of Roseville,
 15 Placer County, and SPMUD to provide regional wastewater and recycled water
 16 facilities in southwestern Placer County. SPWA oversees two regional facilities: the
 17 Dry Creek and Pleasant Grove Wastewater Treatment Plants (WWTPs), both of which
 18 receive flows from SPMUD. All of the sewer generated within the Town of Loomis
 19 flows to the Dry Creek WWTP, located at 1800 Booth Road in Roseville. Treatment at

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1 the Dry Creek WWTP includes screening, primary clarification, aeration, secondary
2 clarification, filtering, and disinfection, and the recycled water is used for landscape
3 irrigation in Roseville.

4 To project future regional wastewater needs, the SPWA prepared the South Placer
5 Regional Wastewater and Recycled Water Systems Evaluation (Evaluation) in June
6 2007 and is currently in the process of completing an updated Evaluation.
7 Background data for the Evaluation update indicates that as of 2019, flows to both
8 WWTPs were below design flows. Both WWTPs are permitted discharges under the
9 National Pollutant Discharge Elimination System (NPDES). Specifically, the Dry Creek
10 WWTP is permitted to discharge an average dry weather flow not to exceed 18 mgd,
11 while the Pleasant Grove WWTP is permitted to discharge an average dry weather
12 flow not to exceed 12 mgd. For fiscal year 2019-2020 the Dry Creek WWTP had an
13 average dry weather inflow of 8.6 mgd, with SPMUD's portion being 1.9 mgd, and
14 the Pleasant Grove WWTP had an average dry weather inflow of 7.6 mgd, with
15 SPMUD's portion being 2.2 mgd (SPMUD, 2020). Therefore, there is currently
16 adequate capacity at the WWTPs to serve the area, based on the existing intensity of
17 development in the region.

18 It should be noted that the two WWTPs are limited not only by capacity but by the
19 amount of nutrients they can receive and treat. The State Water Board regulates
20 nutrient levels such as biochemical oxygen demand and total suspended solids and
21 the WWTPs must meet those regulatory thresholds. Although total flow volumes
22 have decreased with water efficiency, the concentration of nutrients in those flows
23 has increased. To date, this nutrient capacity volume has been accommodated at
24 the WWTPs, but as water efficiency continues to improve and as new development
25 occurs in the region served by SPWA, nutrient levels will continue to concentrate and
26 increase, resulting in a need for improved infrastructure to treat nutrient loads. This
27 could also be exacerbated should regulatory requirements for nutrient removal
28 become more stringent. Improvements at the WWTPs may require additional
29 nutrient handling infrastructure or conversion of infrastructure to newer
30 technologies and systems with increased efficiency. A 2009 Systems Efficiency study
31 identifies improvements to the WWTPs to ensure the WWTPs continue to meet State
32 standards (RMC 2009 South Placer Regional Wastewater and Recycled Water
33 Systems Evaluation). Therefore, future development in Loomis may need to assess

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1 not only total flow capacity, but also nutrient volume capacity for the Dry Creek
2 WWTP serving the Town.

3 According to the 2020 Sewer Participation Fee Nexus Study and the 2020 System
4 Evaluation and Capacity Assurance Plan (SECAP), SPMUD plans to improve the
5 Boyington Road Diversion Trunk in the near term (by 2025). This project includes
6 3,240 feet of 12-inch diameter trunk line along the Boyington Road frontage at I-80.
7 This improvement allows for the abandonment of two aging sewer lift stations.
8 Long-term system improvements include replacing various sections of pipe with
9 larger diameter pipe within the service area, such as replacing the 8-inch and 12-
10 inch diameter pipe in Bankhead Road with new 15-inch diameter pipe, as well as the
11 installation of new trunklines and a pump station in underserved areas, notably
12 areas south of I-80 in east Loomis and areas near Antelope Creek. However, it is
13 critical to note that these improvements are based on development assumptions
14 and estimates to help SPMUD plan for future improvements and establish
15 estimated improvements and timeframes for those improvements. These
16 improvement assumptions in the 2020 SECAP are subject to change depending on
17 the actual pace, scale, and location of future development within the Town, which
18 fluctuates over time.

19 SPMUD is funded through connection fees and service charges, as well as through
20 inspection fees, taxes and bond revenues, interest income and other revenues.

21 Some of the wastewater in the Planning Area is treated by on-site private septic
22 systems, particularly within larger rural residential lots on the periphery of the
23 Planning Area, especially (but not exclusively) in the more rural portions of Town
24 where sanitary sewer service is not available or where main lines are located too far
25 from a property for a connection. Where sewer infrastructure is not available or
26 within an adequate distance, septic systems can be an appropriate alternative if
27 property and soil conditions allow. Septic systems may only be located on land with
28 the appropriate soil type and away from property setbacks, wells, surface waters,
29 and other waterways with approval of the Placer County Health Department. The
30 Placer County Health Department requires a permit, soil testing in the exact location
31 of the proposed septic system on the property, and the payment of appropriate
32 fees. Some septic systems in the area have a history of discharge and maintenance
33 problems. However, because the placement and maintenance of septic systems is

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1 up to private individuals and not public agencies, issues related to septic systems
2 are discussed in more detail in Volume III, Chapter 3, Sections *Water Quality and*
3 *Aquatic Resource Regulatory Framework*.

4 **Drainage & Flood Control**

5 The Planning Area is within the Dry Creek watershed, which covers about 101
6 square miles in Placer and Sacramento counties. Antelope Creek, Secret Ravine, and
7 their tributaries are the primary drainages in the area.

8 The Placer County Flood Control and Water Conservation District (PCFCWCD) is
9 responsible for developing flood control management strategies within the county.
10 The 2011 Update to the Dry Creek Watershed Flood Control Plan prepared for the
11 PCFCWCD addresses flood control within the watershed, and suggests the following
12 recommendations:

- 13 1. Implement the two phases of the Antelope Creek at Atlantic Street project and
14 ALERT system upgrades to mitigate for development impacts as funding
15 becomes available.
- 16 2. Pursue other regional flood flow reduction projects with consideration for
17 additional multi-objective components along with stream corridor if and when
18 opportunities for funding develop.
- 19 3. Implement bridge and culvert improvements in a manner that does not
20 exacerbate flooding at other locations in the watershed. Stream crossing
21 modifications may provide opportunities for additional projects that could
22 improve the flood control benefit of the existing floodplain.
- 23 4. Support building elevation and floodplain property buy-outs as these programs
24 are expected to be the most effective means available to reduce future flood
25 damage to existing structures.
- 26 5. Require on-site (local) detention where mitigation is necessary due to local flood
27 impact considerations.

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1 6. Incorporate [low impact development] LID measures into future development
2 design that promotes infiltration.

3 The Town of Loomis Resolution 97-70 establishes an agreement between PCFCWCD
4 and the Town to coordinate the development, support, and operation of PCFCWCD
5 facilities. Within the Planning Area, the Loomis Town Manager is the Town Floodplain
6 Administrator. The PCFCWCD provides guidance to the Town in dealing with
7 potential flooding impacts. To help implement the above recommendations, on-site
8 detention that reduces runoff to 90 percent of existing flows is required of new
9 development within the Dry Creek watershed.

10 No regional flood control facilities are located within the Loomis Planning Area.
11 However, several small unnamed reservoirs provide local flood detention within the
12 Town. Please refer to Volume III, Chapter 7, *Safety & Noise Issues, Flooding Hazards,*
13 for additional information regarding the location of flood-prone areas in the Town.

14 The Town maintains storm drain infrastructure within the Town limits. This
15 infrastructure includes roadway gutters, drop inlets, and conveyance piping, and
16 roadside drainage ditches or rock-lined ditches. Infrastructure improvements are
17 conducted on a case-by-case basis through the Town's Capital Improvement
18 Program.

19 **Solid Waste Management**

20 Recology Auburn Placer (Recology) provides solid waste disposal for the Planning
21 Area, including residential and commercial yard waste, recycling, and garbage
22 collection. If households elect to subscribe to the service, each is provided with a 32-
23 or 90-gallon container for weekly collection of domestic refuse. Customers may
24 choose to supply and use their own 32-gallon container; however, no green waste
25 container is supplied by Recology at that service level and containers may weigh no
26 more than 50 pounds when full. Recology also offers the "One Big Bin" recycling
27 service. Recyclable materials are collected in one bin and sorted at the materials
28 recovery facility at the Western Regional Sanitary Landfill.

29 CalRecycle data collected between 2007 and 2018 indicates the per-capita
30 production of solid waste in Loomis was 6.7 pounds per day (ppd) in 2007 and

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1 6.6 ppd in 2018. For per-capita employees, the rate was 10.8 ppd in 2007 and 11.3
2 ppd in 2018. The target per resident disposal rate is 6.2 ppd and the target
3 employee disposal rate is 10.8 ppd, indicating that both targets continue to be
4 exceeded.

5 Solid waste is taken to the Western Regional Sanitary Landfill (WRSL) in western
6 Placer County at the intersection of Athens Avenue and Fiddymont Road. The landfill
7 is managed by the Western Placer Waste Management Authority, which consists of
8 representatives from Rocklin, Lincoln, Roseville, and Placer County. The 800-acre
9 landfill has been operating since 1979.

10 The maximum permitted throughput at the WRSL is 1,900 tons per day (tpd), with a
11 total maximum permitted capacity of 36.4 million cubic yards. According to the
12 California Department of Resources Recycling and Recovery (CalRecycle), the
13 remaining capacity at the WRSL is approximately 29.1 million cubic yards and it has
14 an anticipated closure date of January 1, 2058. Loomis's solid waste has been sent to
15 the WRSL since 2003. CalRecycle disposal data indicates Loomis has an increasing
16 volume of disposal tonnage, with 4,916 tons generated by Loomis in 2010 and 8,214
17 tons generated by Loomis in 2018.

18 A materials recovery facility (MRF) at the landfill was opened in 1997. The MRF
19 recovers recyclable materials from mixed waste, process green and wood wastes for
20 composting or biomass, receive and process source-separated recyclables, and
21 receive, recycle, and dispose of household hazardous waste. The facility can handle
22 up to 2,000 tons per day with a 16-hour shift, with a 17 percent guaranteed
23 minimum recovery rate. The materials recovery facility includes a compacted
24 residential waste tipping area and recyclables drop-off/buy back center.

25 Loomis participates in the Placer County Solid Waste Task Force, which assists in the
26 review, revision and implementation of county and city source reduction and
27 recycling elements, household hazardous waste elements and non-disposal facility
28 elements.

29 The Western Placer Waste Management Authority is a regional agency that provides
30 recycling and waste disposal opportunities to the Town of Loomis. The WPWMA
31 oversees operations of the WRSL, MRF, and permanent household hazardous waste
32 collection facility.

1 **Utilities**

2 ***Gas and Electricity***

3 The Pacific Gas and Electric Company (PG&E) supplies natural gas and electricity to
4 homes and businesses in Loomis. These services are provided in accordance with
5 Public Utilities Commission (PUC) rules and regulations, which requires PG&E to
6 update their systems to meet additional demands. As new development occurs,
7 PG&E expands infrastructure within the Town as needed based on the demands of
8 the developments. PG&E has interest in expanding services as new customers fund
9 operations, and it is in their best interest to expand services and maintain
10 infrastructure to continue operations.

11 Town residents, and much of Placer County, are also served by Pioneer Community
12 Energy. Pioneer Community Energy uses PG&E lines to provide electrical service to
13 the area. Pioneer Community Energy operates with a locally elected board and
14 without shareholders to provide a competitive rate. Residents may choose to use
15 unbundled electric service through Pioneer Community Energy or opt back into
16 PG&E's bundled service (<http://pioneercommunityenergy.ca.gov/>).

17 PG&E's electrical mainline is an overhead line located generally along Taylor Road.
18 This is a 60 kV, single circuit line that extends for five miles between Rocklin and
19 Penryn (California State Geoportal. California Electric Transmission Lines,
20 <https://gis.data.ca.gov/datasets/>. Site accessed May 6, 2021). Electrical substations
21 associated with this line are located in Penryn, near Penryn Road, and in Rocklin at
22 the Del Mar Substation near Sierra Meadows Drive (California Energy Commission,
23 California Energy Maps [https://caenergy.maps.
24 arcgis.com/apps/webappviewer/index.html?id=ad8323410d9b47c1b1a9f751d62fe49
25 5](https://caenergy.maps.arcgis.com/apps/webappviewer/index.html?id=ad8323410d9b47c1b1a9f751d62fe495). Site accessed May 6, 2021).

26 The primary gas main in Loomis runs along Taylor Road, and PG&E is currently
27 upgrading the valve system to improve service and safety. This line (Line 173)
28 extends from Roseville and Rocklin along Taylor Road and up through Penryn and
29 Auburn. Another natural gas_main runs along Rocklin Road and continues south
30 along Barton Road (Line 1519-01). The lines within Loomis, except for a portion
31 along Barton Road, are considered to be within High Consequence Areas and as

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1 such have been pressure tested for safety. Based on these tests, valve
2 improvements are being installed to maintain system safety.
3 (<https://www.pge.com/includes/docs/pdfs/myhome/edusafety/systemworks/gas/latestupdates/filingmaps/Map%2020.pdf>).
4

5 Most electrical lines in the Town are located above-ground on utility poles, although
6 some areas, such as the newer developments, have located lines underground to
7 improve the aesthetic. In recent years, due to an increase in wildfire events caused
8 by high winds, the electrical service in Town and the surrounding region has been
9 periodically suspended during high-wind events to avoid fire risk. Although
10 undergrounding utilities is expensive, the increasing vulnerability of the lines and
11 uncertainty of service due to inclement weather may make undergrounding more
12 desirable not just for the aesthetic benefit, but also in terms of maintaining system
13 reliability.

14 Some rural locations on the periphery of the community are not connected to the
15 existing gas distribution network and are instead on individual propane hookups.
16 This service is currently provided by many private propane providers on an
17 individual basis. With increased interest and availability of electric cars and the
18 various home solar infrastructure opportunities and state mandates, homes in
19 Loomis are increasingly equipped with electric vehicle charging infrastructure, solar
20 collection systems, and battery storage.

21 ***Telephone***

22 AT&T currently provides phone service to homes and businesses in the Loomis area
23 and is responsible for maintaining telephone infrastructure in the area. However,
24 many alternative local and long-distance companies are available to provide service
25 using AT&T's network of phone lines. Cellular service is currently provided by AT&T,
26 Verizon, and T-Mobile (Sprint).

27 ***Cable/Satellite Television and Internet***

28 A variety of home internet and cable or satellite service providers are available in
29 Loomis. While fiber service is limited, access through wireless internet, DSL, and
30 cable are widely available through multiple providers including AT&T, Wave Cable,

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1 DISH, DirectTV, HughesNet, Cal.net, Pivotal Global Capacity, Winters Broadband, and
2 South Valley Internet (DecisionData.org, April 24, 2020). Internet speeds range from
3 6 to 1,000 megabits per second (Mbps).

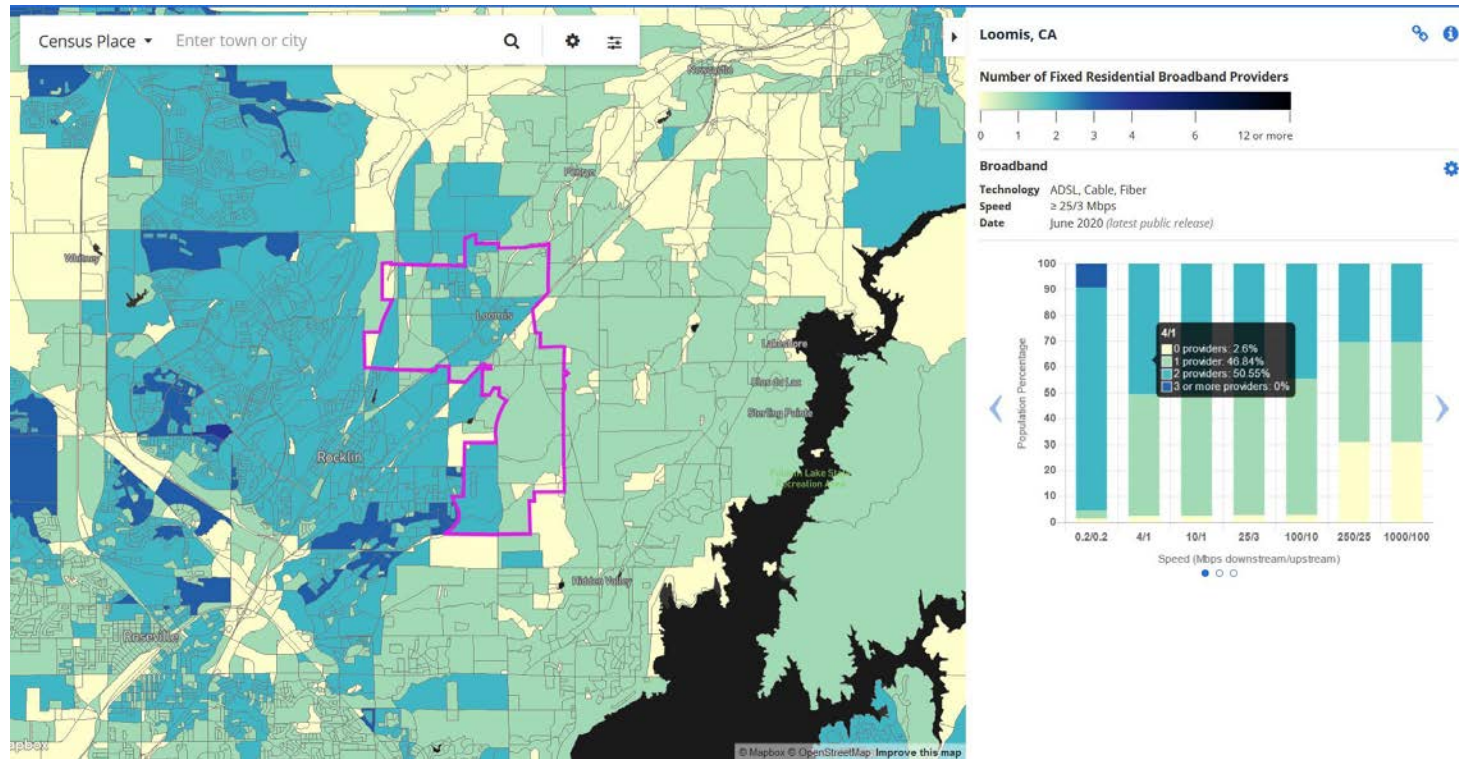
4 Wireless service and infrastructure are driven by market demand, with
5 infrastructure installation or service established as new land development occurs or
6 as customers demand. Installation or expansion of telecommunications services
7 occurs in accordance with the rules of the State Public Utilities Commission.

8 According to the FCC as of June 2020, approximately 97% of Loomis has access to
9 non-wireless (DSL, cable, or fiber) or satellite internet at 25 Mbps/3 Mbps
10 (download/upload speed); however, approximately 47% of Loomis residents are only
11 served by one service provider, while the remaining 50% having access to only two
12 service providers (see Figure 5-3). The current primary service providers are AT&T
13 (DSL) service or Wave (cable) service.

14 Loomis residents indicate that service is not reliable in all areas of the Town and that
15 many areas of the Town, particularly southeast of I-80, receive poor service. While
16 providers other than AT&T and Wave are available, they are wireless or satellite
17 providers and often charge much higher fees that are not feasible for all residents
18 (Public Services and Facilities Committee, March 17, 2001). The Town offers free wifi
19 service at the Loomis Depot and the Loomis Library and Community Learning
20 Center.

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1 **Figure 5-3: Communications Service Map (June 2020)**



2
3
4
5
6

Source: FCC, https://broadbandmap.fcc.gov/#/area-summary?version=jun2020&type=place&geoid=0643140&tech=acf&speed=25_3&vlat=38.80633933495537&vlon=-121.200696&vzoom=11.488214487788884, Fixed Broadband Deployment, site accessed April 28, 2021.

Chapter

6

MARKET ANALYSIS



1 **MARKET ANALYSIS**

2 **PURPOSE OF THE MARKET ANALYSIS**

3 This market analysis was conducted to:

- 4 > Provide information regarding the regional and local economic setting of the
5 Town of Loomis;
- 6 > Evaluate the dynamics between supply and demand of various land uses;
7 and
- 8 > Estimate the amount of and type of development that could be absorbed in
9 the Town of Loomis now through 2040.

10 The analysis focuses on the growth potential of non-residential land uses, including
11 retail, office, and industrial uses; however, a forecast of household projections
12 through 2040 is also included, as population growth informs future non-residential
13 capacity. The results of the market analysis will assist in the formulation of economic
14 development policies to be incorporated into the General Plan Update.

15 **KEY FINDINGS OF THE MARKET ANALYSIS**

- 16 > The Town of Loomis experienced low to moderate growth in retail (4,600
17 square feet), office (31,000 square feet), and industrial space (122,000 square
18 feet) from 2000-2020, all of which grew at slower rates than Placer County as
19 a whole.
- 20 > Construction is the largest and fastest growing industry sector in the Town of
21 Loomis, representing one third of total employment and over 40% of new
22 jobs added from 2010-2017.
- 23 > The Town can play an important role in attracting employment and economic
24 development by prioritizing development planning, implementation, and
25 communication. A strategic focus on economic development could better

MARKET ANALYSIS

- 1 align the occupations of residents with the jobs available in the Town, as
2 currently less than 10% of residents work in the Town of Loomis.
- 3 > Civic beautification and other efforts to improve circulation are important
4 steps taken by the Town in recent years to support local business.
- 5 > Sales and Use Taxes are a significant source of fiscal revenues, comprising
6 approximately 25% of the Town of Loomis General Fund Revenues. Unlike
7 comparable jurisdictions in western Placer County, the Town of Loomis
8 derives approximately 60% of sales tax from business-to-business and
9 wholesale transactions. These businesses are typically in the construction,
10 manufacturing, wholesale, and warehousing sectors. Encouraging the
11 development of retail and other sales tax generating businesses through a
12 suite of strategic policies and regulations could be an effective strategy to
13 boost tax revenues, support the provision of social services, and provide
14 fiscal stability.
- 15 > The Town of Loomis saw a net retail surplus in 2020 (supply greater than
16 demand) of approximately \$6.4 million, driven by the high volume of Food
17 and Beverage Stores (Raley's Supermarket) compared to the consumption of
18 its residents. When Food and Beverage Store sales are not considered, the
19 Town of Loomis is experiencing approximately \$16 million in retail leakage
20 (demand greater than supply) annually. The Town could capture more of this
21 excess demand through development of appropriately located additional
22 retail space.
- 23 > Based on projections of household growth from 2020-2040 for western
24 Placer County, the Town of Loomis could experience sufficient retail demand
25 to warrant the development of approximately 185,000 square feet of retail
26 space (17 acres of land zoned for retail.) The current approved development
27 pipeline includes approximately 155,000 square feet from the approved
28 Costco project that could absorb a significant portion (~80%) of the projected
29 future demand. Nonetheless, the unique characteristics of Costco's business
30 model suggest that the Town could support development beyond the
31 remaining 30,000 square feet of projected demand and develop space in
32 multiple categories of retail to serve the residents of the Town and the
33 surrounding areas. This large addition to the inventory should not preclude

1 development opportunities in established retail corridors, such as downtown
2 Loomis.

3 > Based on projections of employment growth from 2020-2040 for western
4 Placer County, the Town of Loomis could experience sufficient demand to
5 warrant the development of approximately 11 acres of office (123,000 square
6 feet) and 12 acres (207,000 square feet) of industrial space.

7 **Context**

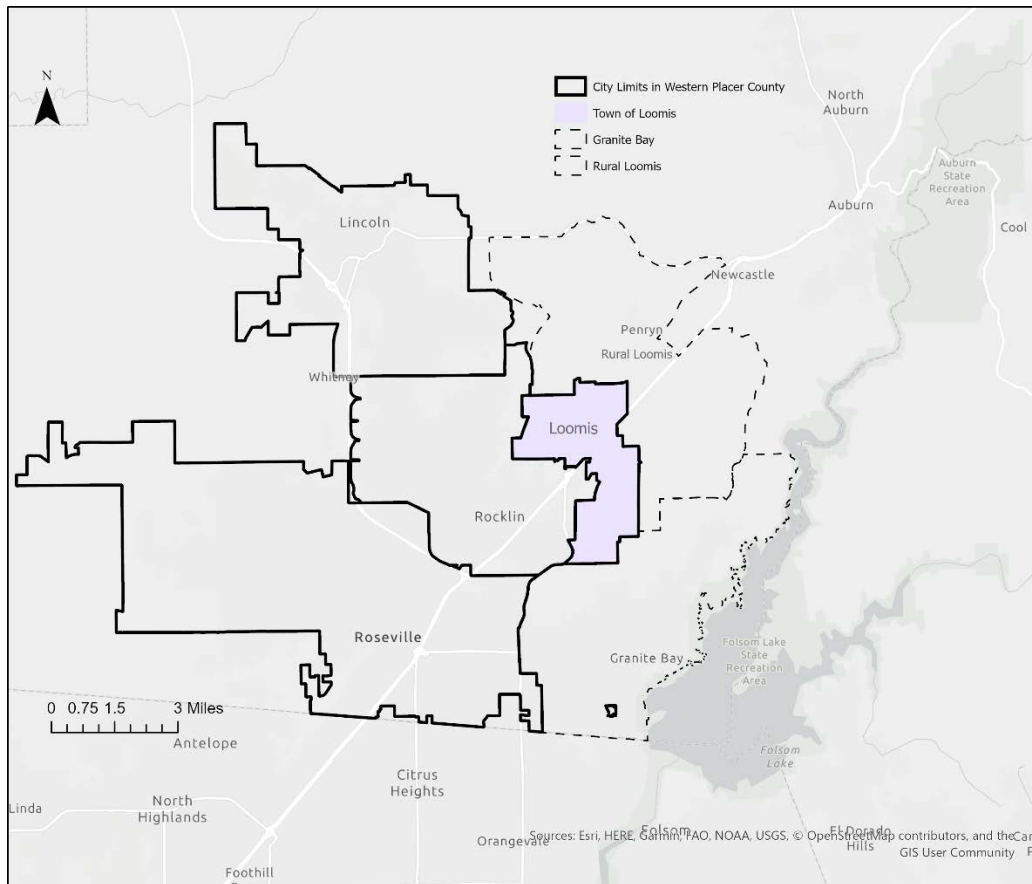
8 ***Western Placer County & the Town of Loomis***

9 The Town of Loomis functions within a regional economy that includes the portion
10 of Placer County from Roseville to the south up to Auburn to the north. This region
11 can generally be divided into two parts: (1) the western Placer County areas of
12 Roseville, Rocklin, Granite Bay, Loomis, Penryn (included in “Rural Loomis” for this
13 analysis), and Lincoln (Figure 6-1); and (2) the central Placer County areas of
14 Newcastle, Auburn, Bowman, Christian Valley, Meadow Vista, and Clipper Gap. The
15 regional marketplace in which Loomis operates is focused on the western Placer
16 County areas.

17 The Town of Loomis is divided into two distinct areas by Interstate 80 (I-80). The area
18 north of I-80 contains most of the existing retail, office, and industrial uses.
19 Commercial development is located along most of the Taylor Road corridor, though
20 it is most focused in what has been designated the “Town Center” area on either
21 side of Horseshoe Bar Road in the core of the community. The Town Center is not
22 only the hub of commerce, but also the civic heart of the community – the Town
23 Hall, Veteran’s Building, library, schools, fire department, and Placer County sheriff
24 substation are also within or adjacent to the Town Center. The Town Center area is
25 designated as a “Center and Corridor Community” in the Sacramento Area Council
26 of Governments (SACOG) Metropolitan Transportation Plan/Sustainable
27 Communities Strategy (MTP/SCS). Housing and industrial employment areas
28 bordering the Town Center are characterized as an “Established Community,” while
29 the remainder of the Town is categorized as “Rural Residential Community” by
30 SACOG (SACOG 2019, Appendix C). The SACOG job projections for the Town are

MARKET ANALYSIS

1 based in part on these designations. As noted in the 2010 update to the Town
2 Center Master Plan, “the Town’s two ‘main streets’ Taylor Road and Horseshoe Bar
3 Road together with adjacent Town-owned properties, can evolve to more completely
4 fulfill the community’s current needs, spur positive change, and serve to shape new
5 development opportunities in the future.”



6
7 Source: SACOG 2020, adapted by AECOM 2020

8 **Figure 6-1: Town of Loomis and Western Placer County**

9 Industrial uses are located in the area around Taylor Road and Swetzer Road in the
10 northern portion of the Town. The area north of I-80 also provides multi-family and
11 higher-density residential uses. The western portion of the Town, including areas
12 along Sierra College Boulevard is primarily developed with rural residential uses. The
13 area south of I-80 is primarily rural and residential in nature, with a few exceptions

1 such as the Indian Creek Country Club on Barton Road, several places of worship,
2 and Mount St. Joseph Seminary, south of Wells Avenue.

3 The Town of Loomis has a locally cherished small-town character and agricultural
4 heritage that has been preserved over the years led by local efforts. Projects and
5 events such as the Loomis Mural Project and the Loomis Eggplant Festival draw
6 residents and visitors alike. While the 2020 Eggplant Festival was cancelled due to
7 the Covid-19 pandemic, the Festival Committee launched a social media “Purple
8 Week” to promote businesses in Loomis and involve local residents with online
9 events, such as a cooking contest. The Loomis Basin Chamber of Commerce
10 provides businesses with online resources and serves as a central updated portal
11 for residents and the business community to check on status updates of the Loomis
12 Downtown Plan, a multi-phased project to improve streetscape and revitalize
13 downtown.

14 ***Economic Trends and Projections***

15 **Land Use**

16 In the past two decades, the Town of Loomis has experienced commercial growth
17 primarily in office and industrial space (Table 6-1). Loomis office space increased by
18 24% between 2000 and 2020, while office space in Placer County increased by 77%
19 during this time. The 1998 market analysis completed for the Loomis General Plan
20 noted that there was a fundamental shortage of light industrial space and that the
21 Loomis area could capitalize on this condition, which has been realized to some
22 extent as industrial space increased 13% over the past two decades. The majority of
23 the new industrial space in Loomis is found in a series of warehouses clustered
24 along Swetzer Road (See Figure C1 in Appendix C). This growth represents the
25 largest overall change in square footage of any land use type – with over 122,000
26 square feet added. Placer County industrial space increased by 21% during this
27 same period.

28 Retail space for both the Town of Loomis and Placer County has lagged other
29 sectors – with 2% growth since 2006 for Loomis and 18% for the County. These
30 changes in land use inventory are congruent with national trends showing growth of
31 warehousing/distribution space and general stagnation or decline in retail space.

MARKET ANALYSIS

1 Vacancy rates in both Placer County and Loomis have been low in recent years
2 (Figure 6-2). In Loomis, there was no vacancy for office space, 1.2% vacancy for
3 industrial space, and 5% vacancy for retail in 2019. The vacancy rates for all three
4 land uses are lower or equivalent to those of California as a whole, which
5 experienced vacancy rates of 7.6% for office, 3.4% for industrial, and 4.6% for retail.
6 The impacts of Covid-19 on vacancy are still somewhat unknown. Preliminary data
7 from 2020 show a 1% vacancy rate for office space, 4% vacancy rate for industrial
8 space, and 3% vacancy rate for retail space in Loomis.¹ While the Town of Loomis
9 continues to be a relatively small market for these non-residential uses, the steady
10 inventory growth and absorption, along with the consistently low vacancy rates,
11 indicate healthy local conditions that conform to the strong growth seen in greater
12 Placer County.

¹ Costar Group, www.costar.com

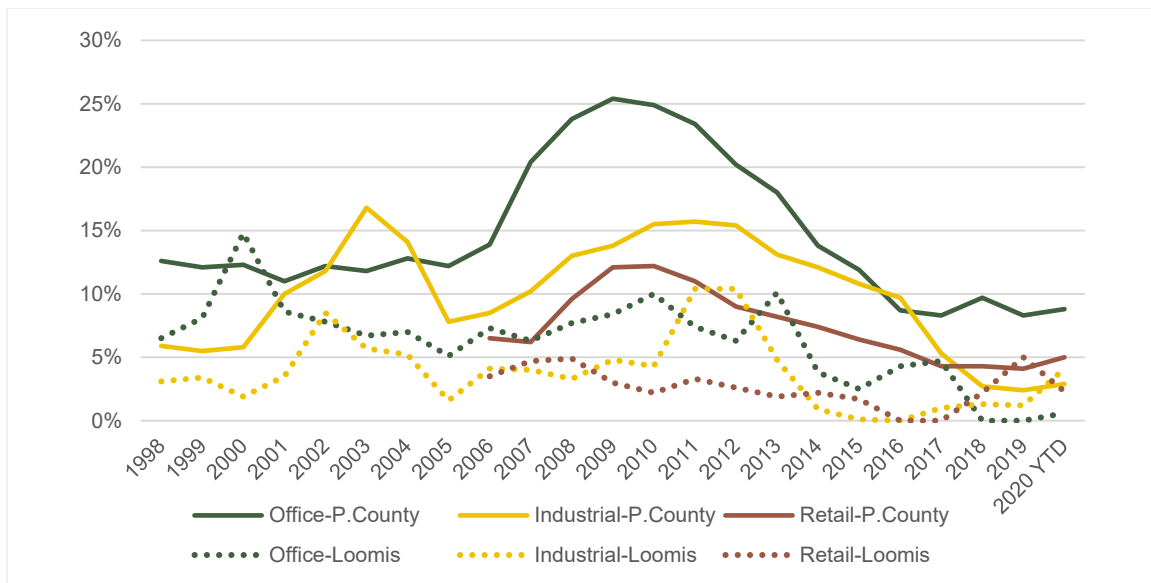
Table 6-1: Office, Industrial, Retail Inventory and Growth		
Sector	Loomis	Placer County
Office Space (SF)	160,973	15,818,183
% Placer County	1%	100%
Growth 2000-2020	30,950	6,891,534
% Growth 2000-2020	24%	77%
Compound Annual Growth Rate 2000-2020	1.07%	2.90%
Industrial Space ((SF)	1,055,994	20,426,282
% Placer County	5%	100%
Growth 2000-2020	122,154	3,516,529
% Growth 2000-2020	13%	21%
Compound Annual Growth Rate 2000-2020	0.62%	0.95%
Retail Space (SF)^a	274,296	22,343,875
% Placer County	1%	100%
Growth 2006-2020	4,600	3,333,721
% Growth 2006-2020	2%	18%
Compound Annual Growth Rate 2006-2020	0.12%	1.16%

Source: Costar Group, 2020, www.costar.com

^a Retail data starts in 2006

1

MARKET ANALYSIS



1
2
3
4

Retail data starts in 2006
Source: Costar Group, 2020, www.costar.com

Figure 6-2: Town of Loomis and Placer County Vacancy Rates 1998-2020

5 2020 Development Pipeline

6 Several projects are in various stages of the entitlement, development, or lease-up
7 process in Loomis. Key projects are highlighted below.

- 8 > The Loomis Costco Project is an approximately 17-acre project located
9 southeast of the intersection of Sierra College Boulevard and Brace Road
10 approved by the Town in 2020. The project will consist of an approximately
11 150,000-sf retail facility.²
- 12 > The Taylor Road improvement project in downtown Loomis is providing new
13 sidewalks, curbs, gutters, streetlights, road paving, and bike paths, among

² Town of Loomis. 2020. Loomis Costco Final Environmental Impact Report. Available: <https://storage.googleapis.com/proudcity/loomisca/uploads/2020/06/1.0-Introduction.pdf>. Accessed December 2020; Gold Country Media. 2020. Loomis Town Council unanimously approves Costco project. Joshua Gutierrez. Available: <https://goldcountrymedia.com/news/175742/loomis-town-council-unanimously-approves-costco-project/> Accessed November 2020.

- 1 other streetscape improvements.³ Phase 1, a \$2.4 million streetscape
2 improvement plan, began in 2017. As of 2020, the project is in Phase 3.
- 3 > In January, 2020, the Loomis Planning Commission approved a conditional
4 use permit and design review for the Loomis Mill Group to put a
5 brewery/distillery, tasting room/bar, and market in a 18,500 square foot
6 building on a 4-acre Town-owned site.⁴ This particular group's plans fell
7 through, though Loomis has continued to look for a developer for the
8 property.
- 9 > The Town is reviewing a proposed subdivision of 20 acres at 3791 Bankhead
10 Road for 8 residential lots.⁵
- 11 > The Village at Loomis was approved by the Town but was later rejected by
12 voters in a referendum. It is still undetermined what land uses and space this
13 development might include. The site is 66 acres and is located northwest of
14 the I-80/Horseshoe Bar Road interchange.⁶

³ Sierra Culture. 2017. Loomis: Revitalizing its Downtown.

Available: <http://www.sierraculture.com/art/loomis-revitalizing-its-downtown/>. Accessed November 2020; Town of Loomis Department of Public Works. Town of Loomis Downtown Master Plan – Phase 1. Available: <https://www.saiservices.com/loomis-dt-mp>. Accessed November 2020; Loomis Chamber of Commerce. 2020. Updates at idigloomis.com Available: <https://www.loomischamber.com/idigloomis/>. Accessed November 2020.

⁴ Gold Country Media. 2020. Loomis Planning Commission OKs High Hand, LBB project. Joshua Gutierrez.

Available: <https://goldcountrymedia.com/news/162500/loomis-planning-commission-oks-high-hand-lbb-project/>. Accessed November 2020; Sacramento Business Journal. 2020. Loomis looks for new developer for Taylor Road site. Ben van der Meer Available: <https://www.bizjournals.com/sacramento/news/2020/03/06/loomis-looks-for-new-developer-for-taylor-road.html>. Accessed November 2020; Town of Loomis. 2020. 2020 Active Projects Planning Status Report (as of September 1, 2020).

Available: <https://storage.googleapis.com/proudcity/loomisca/uploads/94e6f6bc-planning-status-report-10132020.pdf>. Accessed November 2020.

⁵ Town of Loomis. 2020. 2020 Active Projects Planning Status Report (as of September 1, 2020).

Available: <https://storage.googleapis.com/proudcity/loomisca/uploads/94e6f6bc-planning-status-report-10132020.pdf>. Accessed November 2020.

⁶ Town of Loomis. 2017. The Village at Loomis Final Environmental Impact Report.

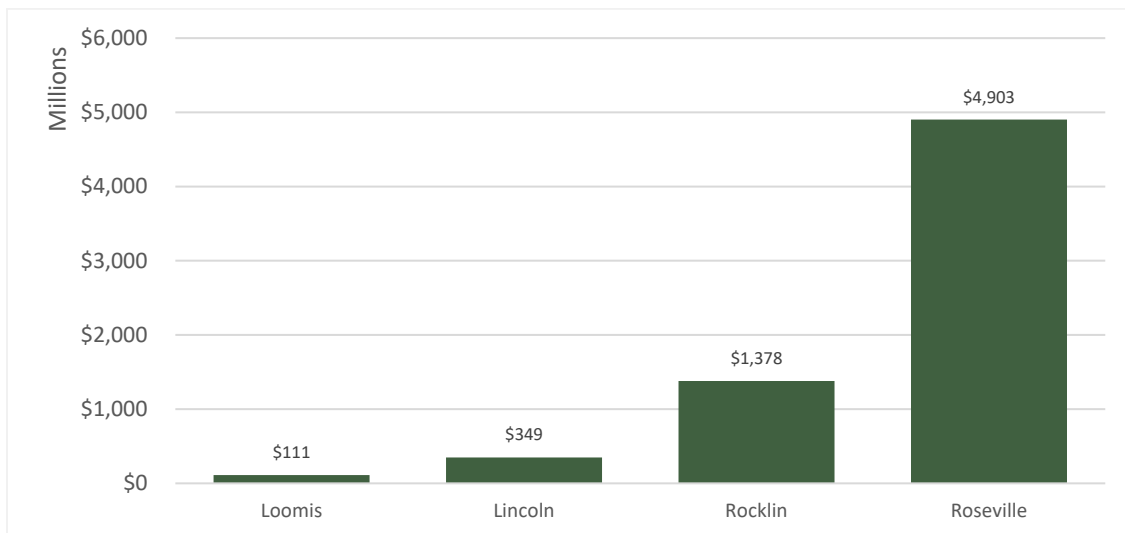
Available: <https://storage.googleapis.com/proudcity/loomisca/uploads/2020/09/Chapter-1-2.pdf>. Accessed December 2020.

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1 In addition, in order to promote reinvestment in the core of the community, in 2019,
2 the Town was selected by the Civic Lab project managed by SACOG for a Commercial
3 Corridor Challenge. The Town is working on a retail strategy for Taylor Road as the
4 initial phase of this Corridor Challenge.

5 **Fiscal Impact of Non-Residential Land Uses**

6 Compared to the other incorporated jurisdictions in western Placer County, the
7 Town of Loomis has a relatively small retail market, largely attributable to the
8 smaller critical mass of households and jobs within its municipal boundary. Taxable
9 sales in the Town of Loomis were around \$110 million in 2019, compared to \$349
10 million in Lincoln, \$1.38 billion in Rocklin and \$4.9 billion in Roseville (Figure 6-3).

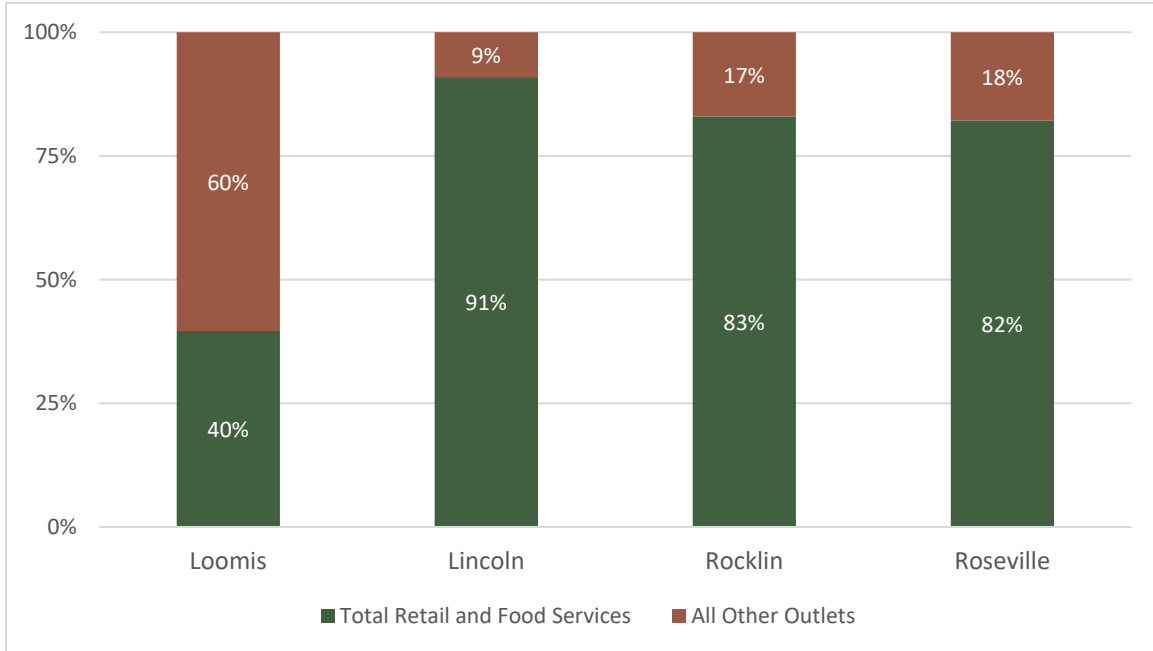


11 Source: California Department of Tax and Fee Administration, 2019

12 **Figure 6-3: Taxable Sales in Loomis and Incorporated Jurisdictions (2019)**

13 Unlike neighboring jurisdictions, however, Loomis derives a majority of its sales
14 taxes from non-retail establishments, or businesses classified by the California
15 Department of Tax and Fee Administration as "All Other Outlets" (Figure 6-4). These
16 businesses typically represent manufacturing, construction, wholesale, and other
17 North American Industry Classification System (NAICS) sectors that sell taxable
18 goods and services business-to-business or business-to-government. Loomis has
19 multiple construction supplies and other wholesale businesses that represent a
20

1 large proportion of total sales. These industrial sector establishments represent
 2 both the highest source of employment and revenue for the Town of Loomis.



3
 4 Source: California Department of Tax and Fee Administration, 2019

5 **Figure 6-4: Proportion of Taxable Sales from Retail (2019)**

6
 7 Sales and Use Taxes averaged 25% of the Town of Loomis General Fund for fiscal
 8 years 2014-15 through 2019-20. While this proportion of total General Fund
 9 revenues is lower than the average of California cities (30%), the relatively small size
 10 of Loomis’ retail market makes it susceptible to economic volatility.⁷ The annual
 11 sales of fewer businesses could have an outsized impact of the Town’s fiscal health.
 12 Encouraging the development of retail and other sales tax generating businesses
 13 through a suite of strategic policies and regulations could be an effective strategy to

⁷ League of California Cities. 2016. A Primer on California City Revenues.
 Available: <http://www.californiacityfinance.com/WCCaCityRevenuePrimer1612.pdf>. Accessed December 2020

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1 boost tax revenues, support the provision of social services, and provide fiscal
2 stability.

3 Expansion of the hospitality sector is also a potential strategy to encourage the
4 growth of businesses and generate fiscal revenues. Hotel visitors are likely to
5 consume goods and services in Loomis, and hotel development contributes
6 additional property and transit occupancy tax revenues.

7 **Business and Employment**

8 The number of business licenses issued by the Town has remained relatively stable
9 in recent years. In 2019, 495 Loomis business licenses were issued or renewed in
10 addition to 196 out-of-town business licenses (Table 6-2), which are issued for
11 businesses based outside the Town or without an office in the Town but with
12 operations in Town's limits.

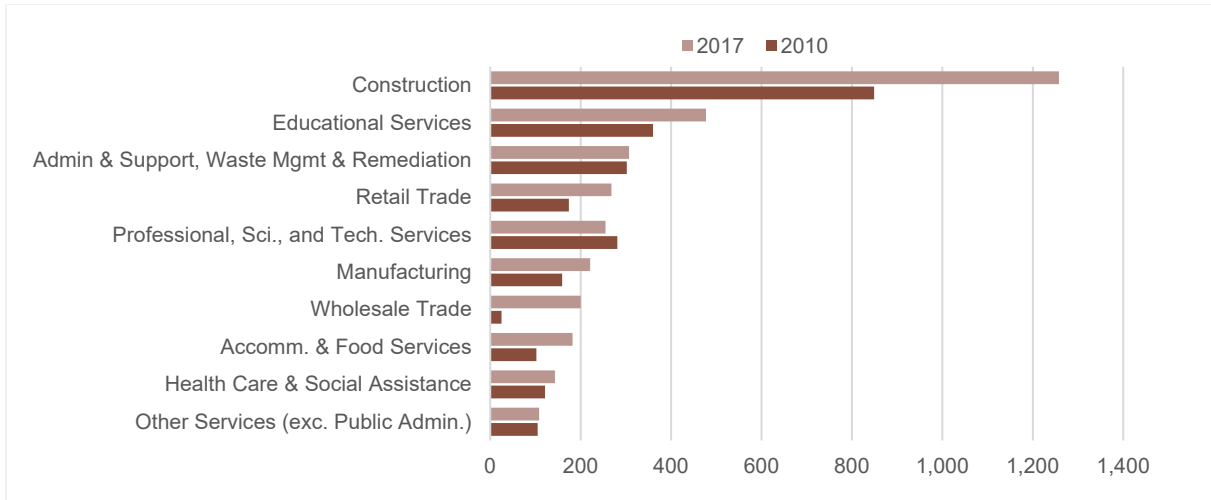
13 Between 2010 and 2017, the number of employees in the Town increased by 35%,
14 which is comparable to the countywide change (32%). Construction services had the
15 greatest increase in employees over this time period (Figure 6-5). The top industries
16 by employee count in 2017 were (1) Construction (NAICS 11); (2) Educational
17 Services (NAICS 61); and (3) Administration and Support and Waste Management
18 and Remediation Services (NAICS 56).

Table 6-2: Issued or Renewed Business Licenses								
Business Licenses	2013	2014	2015	2016	2017	2018	2019	2020^a
Loomis Business Licenses Issued or Renewed	486	482	496	482	474	497	495	476
Out of Town Business Licenses Issued or Renewed	175	182	197	186	193	184	196	196

Source: Town of Loomis 2020 Active Projects Planning Status Report (as of September 1, 2020)

^a As of September 2020

19



1

2

Source: Longitudinal Employer-Household Dynamics (LEHD). 2017. All jobs.

3

Figure 6-5: Loomis Employment for Top 10 Sectors (by Job Count) 2010 and 2017

4

As in many communities, there is a mismatch between the occupation of Loomis residents and the types of jobs offered locally. While there are over 3,700 jobs in the Town of Loomis, only about 5% of employed residents live and work in the Town. Of the workers that leave Town limits for employment, nearly 60% earn more than \$3,333 monthly, while only 43% of the jobs *within* the Town meet that earnings threshold.⁸

9

10

For some industries, Loomis could create a better match with the occupations of local residents by focusing on employment development in some specific areas (Figure 6-6). For example, approximately 13% of Loomis residents work in Health Care & Social Assistance, while only 4% of jobs in Loomis are in this industry.

11

12

13

14

Approximately 9% of Loomis residents work in Public Administration, while only 1% of jobs in Loomis are in this industry.

15

16

In other areas, Loomis has a surplus of jobs compared to the employment needs of the local population – for example, construction is a key sector for jobs located within the Town (34% of the Town’s jobs), though only 9% of Loomis residents work

17

18

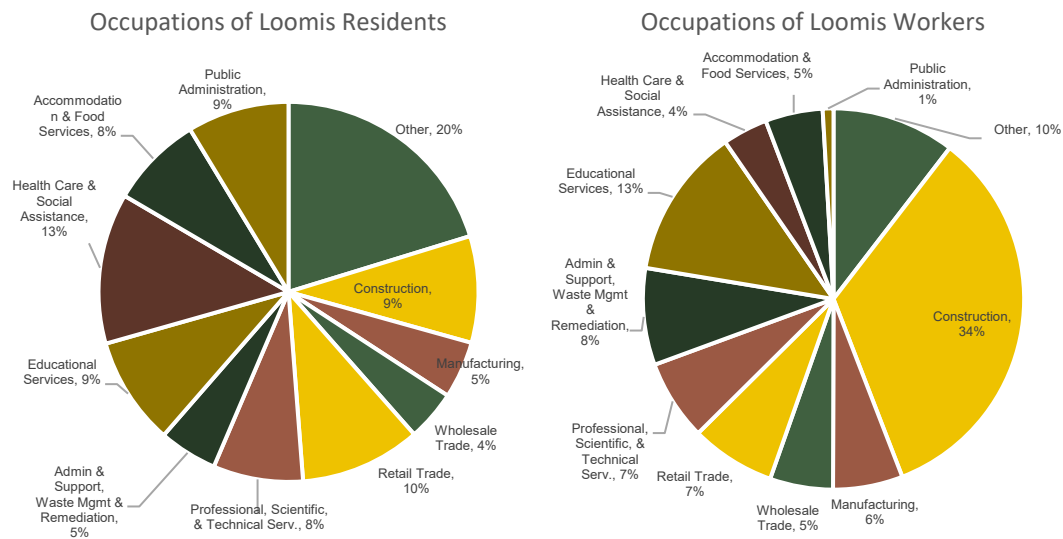
⁸ Based on count of All Jobs Inflow/Outflow Analysis LEHD 2017

MARKET ANALYSIS

1 in that industry. Approximately 9% of Loomis residents work in Education, while 13%
2 of jobs in Loomis are in this industry.

3 In some sectors, there is a good numeric match. For example, 8% of Loomis
4 residents work in Accommodation & Food Services, which represents 5% of local
5 jobs and 8% of residents work in Professional, Scientific, and Technical Services,
6 which represents 7% of local jobs.

7 The Town developed strategies to encourage residential development of diverse
8 housing types to better provide housing to the current and future residents of the
9 Town with a recent update to the Housing Element. Sustainable economic growth
10 requires the provision of housing for all household income levels and employees of
11 various sectors.



12
13 Source: Longitudinal Employer-Household Dynamics (LEHD). 2017. All jobs.

14 **Figure 6-6: Occupations of Residents and Workers**

15 The unfolding impact of Covid-19 has taken the entire country from expansion and
16 opportunity to recession within months, highlighting the need for community
17 policies supporting economic resiliency. The Caltrans 2020 Economic Forecast for
18 Placer County estimates that an average of 10,000 to 12,000 jobs will be lost

1 countywide in 2020, with losses driven by leisure services, professional business
2 services, construction, and retail trade. The report does not anticipate much change
3 in home value in 2020 or 2021, with a slight decrease in housing production in 2020
4 but a rebound in 2021 and expansion the following year.⁹ While short-term
5 economic implications reflect obvious economic distress, long-term ramifications
6 are also important:

7 > **Impacted sectors:** Covid-19 impacts on hotels, retail, and tourism have been
8 consequential. There is general concern that these markets will take time to
9 recover. Other sectors, including retail, health care, and higher education also
10 appear to be facing greater challenges due to Covid-19, and will take
11 considerable time to recover. The 2020 Economic Forecast for Placer County
12 notes that it is “unknown when and if retail employment will eclipse pre-
13 recession levels because of the strengthening demand trend towards online
14 purchasing.”¹⁰

15 > **Return to Work:** Given conjecture about the share of workers who are now
16 permanently working from home, it is unclear how permanent teleworking
17 situations will become. The future ability to compete for a share of this
18 mobile workforce will be relevant. The City of Roseville was awarded 8th place
19 amongst mid-size U.S. cities by the Center for Digital Government for their
20 efforts improving the digital experience for businesses and residents. In
21 Center for Digital Government’s 2020 survey, over 85% of cities listed that
22 telecommuting and work-from-home policies were their most pressing policy
23 need of the year.¹¹

24 Based on 2017 data, there were 3,735 jobs in the Town and 2,977 workers living in
25 the Town – 760 more jobs in Loomis than workers.¹² The SACOG 2020 MTP/SCS

⁹ Placer County Economic Forecast (Caltrans 2020 County-Level Economic Forecast)

¹⁰ Caltrans. 2020. County-Level Economic Forecasts: Placer County.

Available: <https://dot.ca.gov/programs/transportation-planning/economics-data-management/transportation-economics/long-term-socio-economic-forecasts-by-county>. Accessed November 2020

¹¹ City of Roseville. 2020. Roseville wins national award for technology efforts.

Available:

https://www.roseville.ca.us/news/what_s_happening_in_roseville/roseville_wins_national_award_for_technology. Accessed November 2020

¹² Longitudinal Employer-Household Dynamics (LEHD). 2017. All Jobs.

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1 includes employment estimates for 2035 and 2040 with a baseline model year of
 2 2016. The MTP/SCS estimates that the Town of Loomis had a total of 3,616 jobs and
 3 3,195 modeled jobs in 2016.¹³ SACOG projects an increase of 923 total jobs through
 4 2040, a 0.95-percent compound annual growth rate. The SACOG 2016 employment
 5 and employment projections for 2035 and 2040 are organized into nine different
 6 employment categories, as shown in Table 6-3. SACOG notes that “with no plans for
 7 expansion, the Town’s residential growth is limited to development of the remaining
 8 vacant rural residential lands and development in its downtown. Employment
 9 growth will be concentrated along the I-80 corridor and in the downtown.” These
 10 projections inform the office and industrial absorption analysis discussed further
 11 below.

Table 6-3: SACOG Employment Projections for the Town of Loomis

SACOG Employment Category	2016	2035	2040
Retail	291	407	431
Office	735	1,011	1,056
Medical	0	33	36
Education	245	280	291
Industrial	1,045	1,139	1,203
Food Service	221	303	322
Service	418	512	537
Government	240	240	243
Other ^a	0	0	0
Total	3,195	3,925	4,118

Source: SACOG, 2019 (2020 MTP/SCS)

^a Other employment includes jobs in Military/Other

This table shows SACOG MTP/SCS modeled jobs – i.e. the jobs that are inputted in travel models, which exclude home-based business jobs, as this the job number that SACOG breaks down by industry. The total jobs for Loomis in 2016, 2035, and 2040 are, respectively: 3,616, 4,346, and 4,539 – or higher by a factor of 10-13% relative to modeled jobs.

12

¹³ Modeled jobs exclude home-based business jobs, or the jobs that are inputted in travel models, which exclude home-based business jobs as this the job number that SACOG breaks down by industry. The total jobs for Loomis in 2016, 2035, and 2040 are, respectively: 3,616, 4,346, and 4,539 – or higher by a factor of 10-13% relative to modeled jobs. Note that SACOG baseline and projections may not align with recent data related to job distributions. They have been applied in the absorption analysis for this report to be consistent with regional planning work, particularly as related to land use planning through 2040.

1 The California Employment Development Department (EDD) develops sector level
 2 projections for Census Metropolitan Areas. For the Greater Sacramento Region, the
 3 EDD estimates that the fastest growing industrial sectors through 2026 will be
 4 Health Care and Social Services, Construction, Transportation/Utilities, and
 5 Accommodation/Food Services. These sectors represent the most immediate
 6 opportunity for the Town to target for continued economic growth. Table 6-4 shows
 7 the estimated growth by sector through 2026 for the Sacramento-Roseville-Arden-
 8 Arcade MSA.

9

Table 6-4: Projected Growth by Sector 2016-2026		
NAICS Sector	Total Growth (%)	Annual Growth (%)
Health Care and Social Assistance	27%	2.4%
Construction	20%	2.1%
Transportation, Warehousing, and Utilities	20%	2.0%
Accommodation and Food Services	20%	1.6%
Arts, Entertainment, and Recreation	10%	1.3%
Real Estate and Rental and Leasing	10%	1.2%
Wholesale Trade	10%	1.2%
Admin/Support/Waste Management/Remediation	10%	1.2%
Professional, Scientific, and Technical Services	10%	1.1%
Educational Services	11%	1.0%
Management of Companies and Enterprises	10%	1.0%
Information	10%	0.8%
Government	10%	0.5%
Finance and Insurance	0%	0.5%
Retail Trade	0%	0.4%
Manufacturing	0%	0.0%
Mining and Logging	-20%	-2.8%

Source: EDD 2021, AECOM

10

1 **LOOMIS RETAIL ABSORPTION ANALYSIS**

2 **Retail Sales Capture and Leakage**

3 The first step in analyzing an area’s retail market is to determine whether “leakage”
4 or “capture” of retail sales is occurring. Leakage would occur if there is insufficient
5 retail space to meet the shopping needs of Loomis residents, which would result in
6 retail dollars “leaking” outside the Town as shoppers go elsewhere to consume the
7 goods and services they demand. Capture would occur if there is an excessive
8 amount of retail space to meet the shopping needs of Loomis residents, combined
9 with a lack of retail space in surrounding areas, which would result in retail dollars
10 being “captured” from areas outside the Town as shoppers from surrounding areas
11 come to Loomis to consume the goods and services they demand.

12 The results of the retail sales leakage analysis for Loomis are presented in Tables C-1
13 through C-6H in Appendix C following the text of this report. Table C-1 projects the
14 estimated number of households in each of the jurisdictions and unincorporated
15 areas included in western Placer County. Table C-2 projects the estimated household
16 income for each area, and Table C-3 multiplies the data in Table C-1 by the data in
17 Table C-2 to derive total income projections. Tables C-4A through C-4F present the
18 estimated demand in each area by retail sales category based on spending habits
19 that assume total retail expenditures per household account for approximately 37
20 percent of household income, estimated as the average consumption of each
21 category for western Placer County.

22 Table C-4G summarizes the demand projections by retail category for western
23 Placer County, totaling \$3.6 billion in 2020 and increasing to \$5.4 billion by 2040.
24 Table C-4H summarizes demand by area for 2020. Of the total demand, the Town of
25 Loomis represents the smallest share at 1.7 percent, while demand generated in
26 Roseville constitutes 45.5 percent of the total demand in western Placer County.

27 The estimated supply of retail space in 2020, expressed in terms of retail sales, is
28 shown in Table C-5. The Town of Loomis accounts for only 1 percent of the total
29 supply of retail in the area. As expected, Roseville accounts for a very high share of
30 the total supply, estimated to be approximately 70 percent.

1 Tables C-6A through C-6H bring demand and supply together to estimate whether
 2 each area is experiencing a capture or leakage of retail sales. Table 6-5 below (also
 3 Table 6A in Appendix C) illustrates that Loomis is currently experiencing a surplus of
 4 nearly \$6.4 million, and this surplus is projected to become a deficit by 2040 as
 5 demand overtakes supply.

Table 6-5: Loomis Retail Leakage Analysis 2020-2040					
Retail Sales Category (In constant 2018 \$)	Estimated Supply^a 2020	Estimated Demand 2020	Demand v. Supply 2020	Estimated Demand 2040	Demand v. Supply 2040
Clothing and Clothing Accessories Stores	\$11,619	\$5,131,364	(\$5,119,745)	\$7,114,797	(\$7,103,178)
General Merchandise Stores	\$0	\$4,381,895	(\$4,381,895)	\$6,075,634	(\$6,075,634)
Food and Beverage Stores ^b	\$34,763,233	\$12,432,551	\$22,330,682	\$17,238,121	\$17,525,112
Food Services and Drinking Places	\$11,886,749	\$10,528,473	\$1,358,276	\$14,598,056	(\$2,711,307)
Home Furnishings and Appliance Stores	\$3,924,291	\$6,514,459	(\$2,590,168)	\$9,032,500	(\$5,108,209)
Building Material and Garden Equipment and Supplies Dealers	\$6,470,234	\$2,476,398	\$3,993,836	\$3,433,603	\$3,036,631
Motor Vehicle and Parts Dealers	\$2,917,790	\$8,788,754	(\$5,870,964)	\$12,185,883	(\$9,268,093)
Gasoline Stations	\$0	\$5,432,917	(\$5,432,917)	\$7,532,909	(\$7,532,909)
Other Retail Group	\$8,244,730	\$6,144,703	\$2,100,027	\$8,519,823	(\$275,093)
Total	\$68,218,646	\$61,831,514	\$6,387,132	\$85,731,326	(\$17,512,680)

Source: California Department of Tax and Fee Administration, Bureau of Labor Statistics, 2020; SACOG, 2019 (2020 MTP/SCS); ACS, Caltrans Placer County Economic Forecast, 2020; ESRI Business Analyst, 2020; AECOM 2020

^a Supply is assumed to remain constant in comparison to both current and future demand.

^b California does not charge sales tax on most food and beverage products purchased from grocery stores and comparable retail businesses. To estimate sales of Food and Beverage Stores, AEOCM used ESRI Business Analyst data which tracks sales data from private businesses, comparable studies citing ranges of 25%-30% of groceries are taxable, and Costar inventory of relevant retail categories.

MARKET ANALYSIS

1 By 2040, the Town of Loomis is projected to experience retail leakage of
2 approximately \$17.5 million if no additional retail space is developed. A closer
3 examination of retail supply and demand in the Town of Loomis shows that the
4 2020 surplus is driven primarily by sales in Food and Beverage Stores, which saw
5 almost \$35 million in sales. Raley's supermarket in Loomis is the largest contributor
6 to these overall sales and has been able to attract customers from outside the Town
7 of Loomis. Excluding Food and Beverage sales, the Town of Loomis is experiencing
8 retail leakage of approximately \$16 million in the other eight retail categories.

9 In 2020, the Town of Loomis experienced a surplus in four categories: Food and
10 Beverage Stores, Food Services and Drinking Places, Building Materials, and Other
11 Retail. This represents the opportunity for businesses to expand into Loomis and
12 capitalize on excess demand.

13 Expanding the leakage analysis to include the Loomis Rural Area and Granite Bay
14 (defined as the secondary and tertiary markets below), there is an additional \$310
15 million of retail leakage (Table C-6B and Table C-6C). This represents additional
16 opportunity for retail expansion in Loomis that could absorb demand from these
17 nearby unincorporated areas in every retail category.

18 In all the areas studied for western Placer County, only Loomis, Roseville and Rocklin
19 have retail surpluses, indicating their total supply is greater than the demand of
20 their residents. As presented in Table C-6G, all retail categories are estimated to
21 have a current surplus for western Placer County as a whole. The surplus for
22 western Placer County as a region is driven by retail sales in Roseville, which
23 documented over \$4.3 billion in retail sales in 2019. As a region, western Placer
24 County is currently experiencing a large retail surplus of approximately \$2 billion,
25 driven by the abundance of retail sales in Roseville, which appears to absorb
26 demand from jurisdictions outside the region.

27 While the leakage analysis shows the opportunity for growth of retail space in
28 Loomis, future development should consider the relevant competitive supply in
29 neighboring jurisdictions that is already absorbing retail demand from the Town of
30 Loomis, Loomis Rural Area, and Granite Bay.

Loomis Retail Trade Areas

The Town of Loomis retail establishments operate in a unique environment that includes a vast retail marketplace. Cities to the west, including Rocklin and Roseville, have both substantial purchasing power and community-serving retail centers to satisfy that need. Areas to the east and southeast do not have the same level of access to shopping as the cities to the west and southwest.

To estimate the likely future impact of household consumption on the demand for additional retail space in the Town of Loomis, the surrounding areas are separated into Primary, Secondary, and Tertiary markets based on their relative proximity to retail areas in Loomis and clusters of retail space in other jurisdictions.

- > The Primary Trade Area is the Town of Loomis.
- > The Secondary Trade Area is the Loomis Basin area south of the freeway, referenced in the appendices as “Loomis Rural Area.” This is an area immediately outside the Loomis Town limits, bounded by Highway 193 to the north, Sierra College Boulevard to the west, Auburn Folsom Road to the east, and Cavitt Stallman Road to the south. This area includes Penryn but excludes Newcastle. (See Figure C2 in Appendix C)
- > The Tertiary Trade Area includes the Granite Bay area. Loomis can be reached quickly via Laird Road and Horseshoe Bar Road from various points in Granite Bay; however, shoppers in Granite Bay may choose to travel to Roseville and Folsom, as well. (See Figure C3 in Appendix C)
- > Finally, new development areas of Lincoln and Rocklin will have immediate access to Loomis retail centers on the west side of town as they commute to and from work. It is anticipated that Loomis will capture a share of retail expenditures made by these commuters, as well as by those living on the eastern sides of those cities. Households in Roseville are estimated to generate an insignificant impact on retail demand in the Town of Loomis. The capture rate assumptions for these areas, together with other retail assumptions, are provided in Table D-1 of Appendix D. The capture rate assumptions are summarized in Table 6-6.

MARKET ANALYSIS

Trade Area	Neighborhood Retail	Other Retail
Primary	75%	50%
Secondary	0%	40%
Tertiary	0%	20%
Other	0%	5%

Source: AECOM 2020

1

2 The two categories of retail shopping are described below:

3 > **Neighborhood Retail:** Neighborhood shopping centers generally provide
4 convenience goods and personal services. These goods and services are
5 purchased relatively frequently and at the most convenient location without
6 much comparison shopping. Typical items include food, medication,
7 hardware, dry cleaning, barber and beauty services, and shoe repair services.
8 A neighborhood center is a relatively small shopping center, generally
9 ranging from 75,000 to 125,000 square feet of retail space. National surveys
10 indicate that approximately 30% of retail consumption per household
11 accrues to neighborhood retail space.

12 > **Other Retail:** Community, regional, and other shopping centers provide
13 goods and services that are bought after some degree of deliberation, on a
14 less frequent basis than those provided by neighborhood centers, and that
15 are somewhat specialized in nature. The products purchased at these other
16 centers typically last longer than those from neighborhood centers and are
17 differentiated by brand identification, retailer image, and shopping area
18 ambience. Typical items include apparel, household furnishings, and
19 specialty items like jewelry, cameras, and books. Representative examples
20 also include health and entertainment establishments, such as gyms and
21 movie theatres. Other retail centers in smaller towns like Loomis range in size
22 from 200,000 to 300,000 square feet of retail space. National surveys indicate
23 that approximately 70% of retail consumptions per household accrues to
24 community, regional, and other shopping centers.

1 It is assumed that Loomis will capture 75% of neighborhood shopping demand
2 generated by Loomis residents. Naturally, some residents who work outside the
3 area will conduct some of their neighborhood shopping (including lunches, trips to
4 the dry cleaners, etc.) in the area of their workplace, but workers who commute to
5 Loomis will do the same and some commuters will stop to purchase these types of
6 goods and services in Loomis rather than near their residences.

7 In terms of other retail shopping demand, the percentages shown in the capture
8 rate table above are typical for the size and composition of each Loomis trade area.
9 For example, while local shoppers will take advantage of their proximity to
10 community-serving retail centers in Loomis to meet the majority of their community
11 shopping needs, these shoppers are likely to make trips to outlet centers, power
12 retail centers, various upscale centers, and other shopping areas in Roseville,
13 Rocklin, and even Auburn. The farther shoppers in the secondary and tertiary trade
14 areas are from Loomis and the closer they are to other shopping locations, the less
15 likely they are to frequent Loomis shopping centers. This accounts for the declining
16 capture rates from primary to tertiary trade areas. Capture rates for the other trade
17 areas rely exclusively on pass-by traffic. The significant clusters of retail space in
18 Rocklin and Roseville are likely to continue to attract retail customers from beyond
19 their jurisdictions' boundaries.

20 **New Retail Acres in Loomis**

21 As Table D-2 illustrates, a total of 17 new retail acres are projected to be required to
22 meet new retail demand in Loomis from 2016 through 2040: nearly 2 new
23 neighborhood retail acres and another 15 acres of other retail are projected to be
24 required in Loomis through the year 2040. The 17 acres represent the estimated
25 demand for 185,000 square feet of future retail space under current zoning
26 regulations. This forecast is based on projections of household growth in Loomis
27 and western Placer County and household consumption survey data from 2019.
28 These estimates highlight the total demand potential from households in the Town
29 of Loomis, the Loomis Rural Area, and surrounding jurisdictions, which is highly
30 susceptible to changes in the competitive market and local household spending
31 patterns. The robust retail supply in neighboring jurisdictions and the large and
32 growing presence of e-commerce and on-line retailers (a pattern accelerated by

MARKET ANALYSIS

1 recent changes caused by Covid-19) will continue to represent a competitive supply
2 of retail that could dampen future demand generated from household and
3 employment growth in the Town of Loomis.

4 There are a number of projects in the current development pipeline that could add
5 additional retail space to the inventory of the Town of Loomis. In particular, a Costco
6 has been approved for construction that would add approximately 155,000 square
7 feet and absorb a majority of the estimated 185,000 square feet demanded through
8 2040. The impact this new retail space could have on projected demand in Loomis
9 warrants discussion. As a warehouse club store, Costco is likely to meet a certain
10 percentage of demand from existing and future households in a number of retail
11 categories. While the projected demand for the Town of Loomis assumes a capture
12 rate from future household growth in the Loomis Rural Area, Granite Bay, and the
13 neighboring jurisdictions (detailed in the previous section), the retail space of the
14 new Costco is likely to serve an expanded regional market. At the same time, only a
15 certain percentage of Loomis residents are likely to be Costco members and utilize
16 this new retail space. Thus, while Table 6-7 shows a linear reduction in projected
17 retail space demanded in the Town of Loomis after accounting for the approved
18 development pipeline, it is understood that there remains significant potential for
19 development in other retail categories and absorption into the currently vacant
20 retail spaces in established corridors, such as in downtown Loomis.

Table 6-7: Town of Loomis Estimated Future Retail Demand 2020-2040			
	Gross Demand 2020-40	Approved Development Pipeline (2020)	Net Demand 2020-40
Retail Space (SF)	185,000	155,000	30,000

Source: SACOG, AECOM, Town of Loomis

1 **LOOMIS OFFICE & INDUSTRIAL ABSORPTION**
2 **ANALYSIS**

3 **Job Distribution**

4 The office and industrial absorption analysis is based primarily on SACOG’s 2020
5 MTP/SCS projections for employment. Employment projections by sector, as
6 classified by SACOG, are categorized here into broader employment categories and
7 correlated to general land use categories (see Table 6-8 and Table 6-9). In order to
8 convert employment to land use requirements, assumptions regarding square feet
9 of space per employee, floor-to-area ratios (FARs), and vacancy rates were made
10 (Table 6-8 and Table D-4). These three assumptions, taken together, translate into a
11 factor for jobs per acre, which is used to convert employment to acreage. Office and
12 medical and service employment growth is estimated to generate demand for
13 future additions of office space inventory. Industrial employment is assumed to be a
14 mix of light industrial and general industrial. Therefore, employment projections
15 translate into demand for the following three broad land use categories:

- 16 > Office
- 17 > Light Industrial
- 18 > General Industrial

19 Table 6-10 shows the distribution of employment by broad employment category for
20 2016 and 2040 with associated general land use categories. While total employment
21 in Loomis is expected to increase by approximately 923 jobs from 2016 to 2040, the
22 overall distribution of jobs among sectors is estimated to remain relatively
23 consistent. Retail and food service, office, and medical and service each experience
24 slight increases, while education and government, and industrial, both decrease as a
25 percentage of the total.

MARKET ANALYSIS

Table 6-8: Crosswalk of Employment Categories			
Employment Category	NAICS Codes	SubCodes/Description	Employment Category for Analysis
Education	61	Educational Services (exclude 6115-6117 trade school, education support, include in service)	Education and Government
Food Service	722	7221-7225 (restaurants and bars)	Retail and Food Service
Government	92	Public Administration (exclude 9281 security and information, include in Other)	Education and Government
Industrial	11	Agriculture, Forestry, Fishing and Hunting	Industrial
Industrial	21	Mining, Quarrying, and Oil and Gas Extraction	Industrial
Industrial	22	Utilities	Industrial
Industrial	23	Construction	Industrial
Industrial	31-33	Manufacturing	Industrial
Industrial	42	Wholesale Trade	Industrial
Industrial	48-49	Transportation and Warehousing (exclude 4911 post office, include in service)	Industrial
Industrial	562	562 - (5621 - 5629) included in industrial because uses are administrative for waste, utilities and construction uses.	Industrial
Medical	62	Health Care and Social Assistance (exclude 623-624 nursing and residential care, social service, include in service)	Medical and Service
Office	51	Information	Office
Office	52	Finance and Insurance	Office
Office	53	Real Estate and Rental and Leasing	Office

Table 6-8: Crosswalk of Employment Categories			
Employment Category	NAICS Codes	SubCodes/Description	Employment Category for Analysis
Office	54	Professional, Scientific, and Technical Services	Office
Office	55	Management of Companies and Enterprises	Office
Office	56	Administrative and Support and Waste Management and Remediation Services (exclude 562, construction, include in industry)	Office
Office	813	8131 - 8139 included in Office (Office) because uses are larger civic and charitable organizations.	Office
Other*	9281	9281 (military) included in Military/Other	Office (note there are 0 for other for all time periods for Town of Loomis)
Retail	44-45	Retail Trade	Retail and Food Service
Service	4911	4911 post office	Medical and Service
Service	6115-6117	6115-6117 (trade and technical schools) included in Retail(Service) because I-PLACE3S Education is K12 and college related	Medical and Service
Service	623	623 - Nursing and Residential Care Facilities	Medical and Service
Service	624	624 - Social Assistance	Medical and Service

Source: SACOG 2020 MTP/SCS, AECOM

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MARKET ANALYSIS

Table 6-9: Town of Loomis Job Distribution and Land Use Assumptions							
Employment Category	General Land Use Categories	SF per Employee	Floor Area Ratio	Vacancy Rate ²	Jobs Per Acre	Estimated Job 2016 Distribution	
Retail and Food Service ¹	Neighborhood Commercial, Other Retail	500	0.25	10.0%	21	512	16%
Education and Government ¹	Schools	N/A	N/A	N/A	N/A	485	15%
Office	Office	300	0.3	7.5%	42	735	23%
Medical and Service	Office	250	0.25	7.5%	42	418	13%
Industrial	Light Industrial (50%) General Industrial (50%)	900	0.4	5%	19	1,045	33%
Total						3,195	100%

Source: Western Placer County Nexus Fee, USGBC, Urban Land Institute, 1998 Town of Loomis General Plan

¹ Retail acreage calculated separately based on housing units; school and government acreage not determined as part of this analysis.

² Vacancy rates based on industry best practice; SF per employee based on Western Placer County Nexus fee study and USGBC

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Table 6-10: Job Distribution			
Employment Category	General Land Use Categories	Estimated Job 2016 Distribution	Estimated Job 2040 Distribution
Retail ¹ & Food Service	Neighborhood Commercial, Other Retail	16%	18%
Education & Government ¹	Schools, Other Public	15%	13%
Office	Office	23%	26%
Medical & Service ²	Office	13%	14%
Industrial	Light Industrial (50%), General Industrial (50%)	33%	29%
Total		100%	100%

Source: SACOG 2020 MTP/SCS, AECOM

¹ Retail acreage calculated separately based on housing units; school and government acreage not determined as part of this analysis.

² Service includes NAICS: 4911(post office), 6115-6117 (trade and technical schools), 623 (nursing and residential care facilities), and 624 (social assistance)

Note: The job distribution presented here, and the accompanying analysis, use SACOG data for current and projected job distribution. This may not align with data related to recent job distributions but has been applied to as to be consistent with regional planning work, particularly as related to land use planning through 2040.

1 New Office and Industrial Acres in Loomis

2 Overall, office and industrial acreage is modeled to have a total demand of 23 acres
 3 between 2016 and 2040 (see Table D-5). Of the 23 acres demanded, approximately
 4 11 acres would be developed for office space to accommodate the estimated
 5 123,000 square feet needed for job sectors concentrated in office. The remaining 12
 6 acres would be developed for industrial space to accommodate the estimated
 7 207,000 square feet needed for job sectors concentrated in industrial space.
 8 Employment growth for the retail and food service sector is likely to be
 9 accommodated by the growth in retail space estimated above, while employment
 10 growth in education and government will be accommodated through expansion or
 11 renovation of the appropriate institutional land uses, and has not been included in

1 this analysis. These estimates are based on projections of employment through
2 2040 and could change dramatically based on future economic conditions. While
3 still too early to predict, the future impact of Covid-19 on working and commuting
4 patterns could both greatly increase the demand for traditional office or industrial
5 space (demand for more square feet per worker) or decrease the same demand
6 (remote work becoming a permeant feature of many jobs).

7 **SUMMARY OF RETAIL, OFFICE, AND INDUSTRIAL** 8 **ABSORPTION ANALYSIS**

9 Table 6-11 and Table D-6 in Appendix D summarize the absorption analysis for the
10 key areas of non-residential land use: retail, office, and industrial through 2040.
11 Overall, based on projections of household growth from 2020-2040 for western
12 Placer County, the Town of Loomis could experience sufficient retail demand to
13 warrant the development of approximately 17 acres of land zoned for retail. Based
14 on projections of employment growth for the same time period, the Town of Loomis
15 could experience sufficient demand for commercial and industrial space to warrant
16 the development of approximately 23 acres of office and industrial space.

17

Table 6-11: Town of Loomis Estimated Demand for Non-Residential Acreage 2016-2040					
Land Use Designations	Retail Demand	Office Demand	Light Industrial Demand	General Industrial Demand	Total Demand
Retail					
Neighborhood Commercial	2				2
Other Retail	15				15
TOTAL RETAIL	17				17
Office & Industrial					
Office		11			11
Light Industrial			6		6
General Industrial				6	6
TOTAL OFFICE & INDUSTRIAL		11	6	6	23
TOTAL ACRES	17	11	6	6	40

Source: AECOM, 2020

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MARKET ANALYSIS

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Chapter

7

SAFETY & NOISE

1



1 **SAFETY & NOISE**

2 **PUBLIC HEALTH AND SAFETY**

3 **Introduction**

4 Jurisdictions planning for future development and conservation must consider a
5 wide range of public safety issues. Safety hazards can be natural in origin, such as
6 seismic and geologic hazards, flooding, and wildland fire hazards. Others may be the
7 result of natural hazards that are exacerbated by human activity and alteration of
8 the natural environment, such as urban fires and development in sensitive areas
9 such as floodplains and areas subject to erosion. Other hazards are manmade,
10 including the introduction of hazardous materials. Many of these hazards can be
11 avoided through careful planning and site design.

12 This section inventories and assesses the major hazards confronting Loomis,
13 including seismic and geologic hazards, wildland and urban fires, flooding, and
14 hazardous materials incidents. This section also assesses the noise environment of
15 Loomis, which contributes to the health and safety of the community.

16 **Seismic and Geologic Hazards**

17 Seismic and geologic concerns can present a variety of hazards for people and
18 structures. These hazards include surface fault rupture, strong seismic ground
19 shaking, liquefaction, lateral spreading, subsidence, landslides, seiches, soil erosion,
20 and expansive/unstable soils. Each of these potential hazards are addressed below.

21 ***Regional and Local Geology***

22 The Planning Area is located along the western margin of the Sierra Nevada
23 foothills, on the western side of the Sierra Nevada geomorphic province. The
24 western slope of the Sierra Nevada dips gently westward and extends beneath
25 sediment of the Great Valley province. The Planning Area is located within the

SAFETY & NOISE

1 Penryn and Rocklin Pluton—Lower Cretaceous age (approximately 145.5 to 99.6
2 million years Before Present [B.P.]) formations composed of quartz diorite (see
3 Figure 7-1) (Gutierrez 2011). Plutonic rocks are igneous in nature; they formed from
4 magma that cooled deep underground and intruded into the surrounding rock
5 formations.

6 Scattered outcrops of the late Pliocene–early Miocene age (approximately 9 million
7 years B.P.) Mehrten Formation are exposed at the surface in the northwestern and
8 southeastern portions of the Planning Area. The Mehrten Formation consists
9 predominantly of volcanic mudflow and ash deposits; however, it also includes
10 occasional beds of andesitic boulders, cobbles, and gravels in a sandstone matrix
11 (i.e., alluvial deposits).

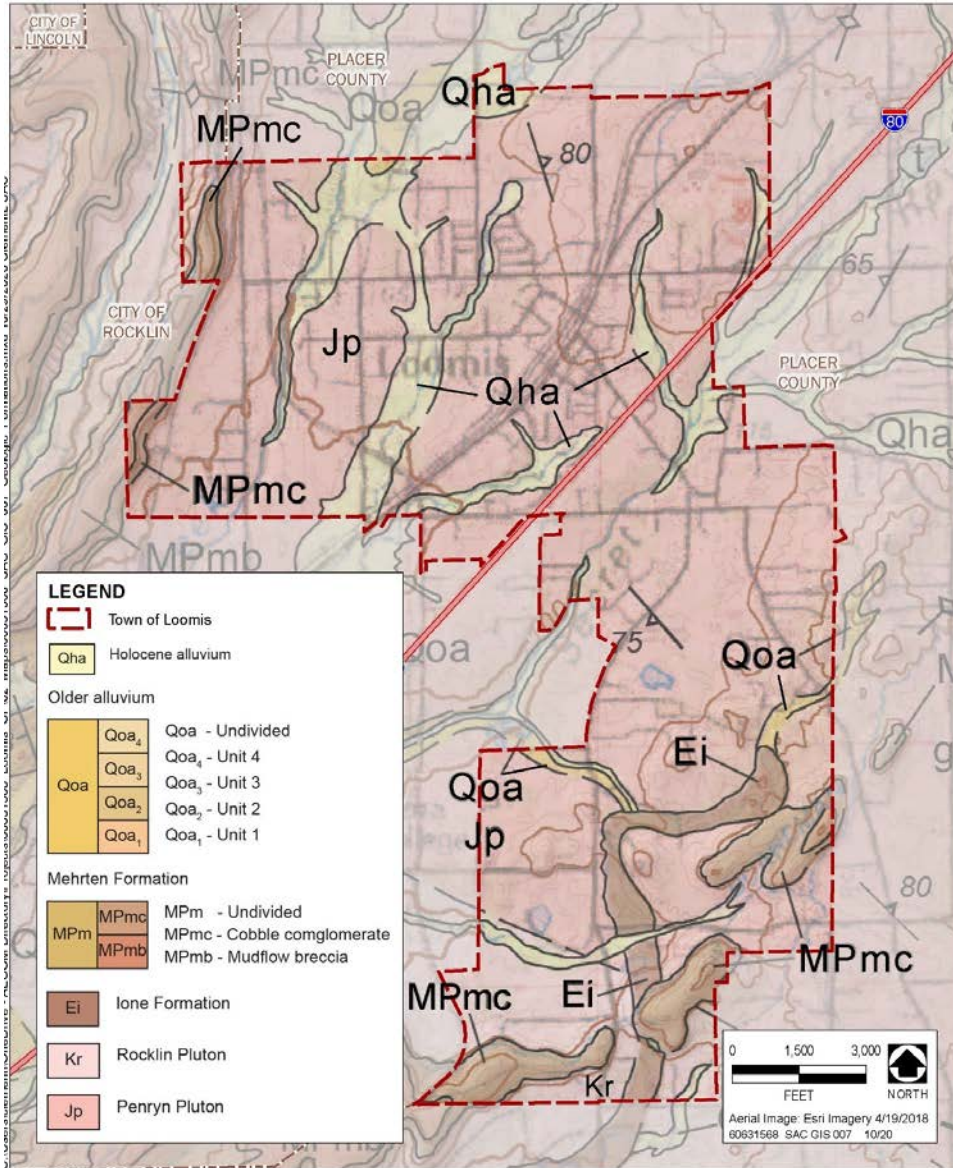
12 The Lone Formation outcrops at the surface at the southeastern edge of the
13 Planning Area. This formation occurs as a 200-mile-long series of isolated exposures
14 along the western foothills of the Sierra Nevada, from Oroville south to Friant in
15 Fresno County. The Lone Formation consists of quartzose sandstone, conglomerate,
16 and claystone that is generally soft and deeply eroded. Locally, it contains beds of
17 kaolinite clay. The lone formed from fluvial, estuarine, and shallow marine deposits
18 of Eocene age (approximately 35 to 55 million years B.P.).

19 Two small areas of undivided Older Alluvium, which is of early to late Pleistocene-
20 age (11,700 to 2.6 million years B.P.), are present in the Planning Area south of
21 Interstate (I-)80. The Older Alluvium comprises alluvial fan, stream terrace, basin,
22 and channel deposits. The topography in these two areas is gently rolling with little
23 or no original alluvial surfaces preserved.

24 Finally, Holocene-age (the last 11,700 years) alluvial deposits are present along
25 streambeds in the Planning Area, primarily associated with Antelope Creek, Sucker
26 Ravine, and Secret Ravine.

27

1 **Figure 7-1: Geologic Map**



Geologic Formations
 Town of Loomis General Plan and EIR



2

SAFETY & NOISE

1 ***Regional and Local Faulting***

2 The nearest major fault system near Loomis is the Foothills Fault System, which
3 traverses Amador, El Dorado, and Placer counties in a path more than 200 miles
4 long and 6 miles wide (see Figure 7-2). The Foothills Fault System is a broad zone of
5 northwest-trending east-dipping normal faults formed along the margin of the Great
6 Valley and the Sierra Nevada geologic provinces, on the western flank of the Sierra
7 Nevada and southern Cascade mountain ranges. The Bear Mountains Fault Zone,
8 which is part of the Foothills Fault System, includes several potentially active faults,
9 including the Spenceville, Deadman, and Dewitt Faults. The Deadman Fault is
10 approximately 6 miles northeast of the Planning Area. The potentially active Wolf
11 Creek Fault Zone (also part of the larger Bear Mountains Fault Zone) is
12 approximately 12 miles to the northeast.

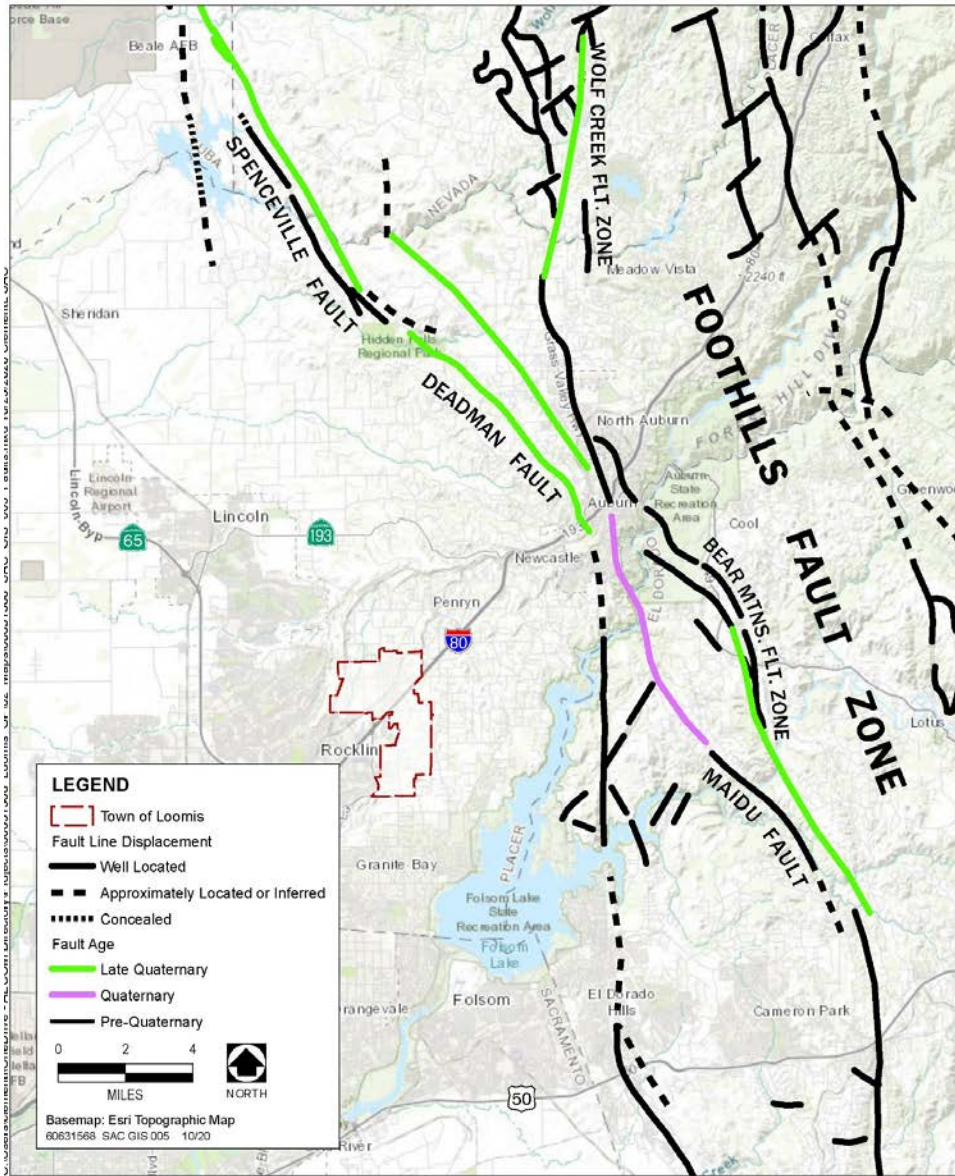
13 Geologists have determined that the greatest potential for surface fault rupture and
14 strong seismic ground shaking is from active faults; that is, faults with evidence of
15 activity during the Holocene epoch. Faults classified as “potentially active” (where
16 there is evidence that movement has occurred during the Quaternary period, which
17 is currently defined as the last 2.6 million years), have a lower potential for surface
18 fault rupture and strong seismic ground shaking.

19 No active faults are known to exist in Placer County, and no Alquist-Priolo Special
20 Studies Zones are designated in the county. The nearest known active fault that has
21 been mapped by the California Geological Survey is the Dunnigan Hills Fault, well to
22 the west of the Town on the opposite side of the Sacramento Valley. Investigations
23 performed for the proposed Auburn Dam indicated that, in the vicinity of Folsom
24 Lake (east of the Planning Area), the Foothill Fault System may be capable of
25 producing a magnitude 6.5 Richter Scale event (U.S. Geological Survey Auburn
26 Project Review Team 1996). In 1975, a magnitude 5.7 earthquake was recorded on
27 the Cleveland Hills Fault within the Foothill Fault System south of Lake Oroville,
28 although the most likely cause of the earthquake was later determined to be a result
29 of reservoir-induced stress.

30

31

1 **Figure 7-2: Regional Faults**



Source: Jennings and Bryant 2010 Fault Activity Map of California

Regional Faults

Town of Loomis General Plan and EIR



2

SAFETY & NOISE

1 Because the Spenceville, Deadman, and Dewitt Faults, the Wolf Creek Fault Zone,
2 and the Bear Mountains Fault Zone east of Folsom Lake, have shown evidence of
3 activity in the last 700,000 years, they are considered potentially active. There is no
4 evidence of activity along the Melones Fault (approximately 15 miles east of the
5 Planning Area) during the Quaternary period. The last seismic event recorded in the
6 area with a magnitude of 4.0 or greater was in 1907, with an epicenter between
7 Auburn and Folsom, possibly associated with the Bear Mountain Fault.

8 An inactive, inferred local fault was mapped approximately 3,000 feet southeast of
9 the Planning Area's southern boundary in 1974 (Gutierrez 2011); this fault is not
10 included in the California Geological Survey Fault Activity Map of California (Jennings
11 and Bryant 2010). The potential for seismic events originating from this fault is
12 considered low (see Figure 7-1: Geologic Formations).

13 ***Seismic Hazards***

14 The Planning Area is located within the Penryn and Rocklin Plutons—rock
15 formations that are composed of quartz diorite (similar to granite), which intruded
16 into the surrounding Sierra Nevada batholith. During seismic events, this material
17 tends to react as a uniform block, which has the effect of reducing ground
18 movement, acceleration, and the likelihood of ground rupture. Consequently, the
19 Planning Area is in a lower risk category in terms of potential damage from an
20 earthquake on the potentially active faults to the east.

21 Typical seismic hazards include surface rupture, groundshaking, and various types
22 of ground failure (such as liquefaction, lateral spreading, subsidence, and
23 landslides). The potential for these hazards to occur in the Planning Area is
24 described below.

25 **Surface Rupture**

26 Surface rupture is the actual cracking or breaking of the ground along a fault during
27 an earthquake. Structures built over an active fault can be torn apart if the ground
28 ruptures. Surface ground rupture along a fault generally is limited to a linear zone a
29 few yards wide. The Alquist-Priolo Earthquake Fault Zoning Act was enacted to
30 prohibit structures designed for human occupancy from being built across the

1 traces of active faults, thereby reducing the loss of life and property from an
2 earthquake.

3 There are no Alquist-Priolo Earthquake Fault Zones delineated by California
4 Geological Survey, nor are there any other known faults within the Planning Area.
5 Therefore, the likelihood of surface rupture in the Planning Area is considered low.

6 **Groundshaking**

7 Groundshaking is the vibration that radiates from the earthquake source. The
8 severity of groundshaking and its potential to cause damage to buildings is
9 determined by several factors:

- 10 > The nature of the underlying soil and geology;
- 11 > The location of the earthquake source;
- 12 > The earthquake magnitude;
- 13 > The duration and character of the ground motion;
- 14 > The structural characteristics of a building; and
- 15 > The quality of workmanship and materials used in buildings.

16 Portions of the Planning Area are located on Holocene-age, unconsolidated alluvial
17 deposits, which can increase the potential for groundshaking damage. As
18 earthquake waves pass from more dense rock to less dense alluvial material, they
19 tend to reduce velocity, but increase in amplitude (i.e., size). A bigger earthquake
20 wave causes stronger shaking. As a result, structures located on these types of
21 materials may suffer greater damage. "Poor ground" can be a greater hazard for
22 structures than close proximity to the fault or the earthquake's epicenter. The
23 potential for groundshaking may be considered highest on the Holocene-age alluvial
24 deposits along the creeks and ravines in the northern portion of the Planning Area
25 (see Figure 7-1).

26 Earthquakes can be measured in several ways. Earthquakes create certain types of
27 waves with different velocities, which can be recorded on instruments called
28 seismometers. For purposes of geotechnical reports and compliance with the

SAFETY & NOISE

1 California Building Standards Code (CBC), scientists use computer models to project
2 the anticipated amount of ground shaking by calculating the peak horizontal ground
3 acceleration. The California Geological Survey Probabilistic Seismic Hazards
4 Assessment Model (CGS 2008) indicates there is a 1-in-10 probability that an
5 earthquake within 50 years would result in a peak horizontal ground acceleration of
6 approximately 0.139g (where g is a percentage of gravity), which indicates that a low
7 level of seismic ground shaking is anticipated in the Planning Area. The lack of
8 nearby active faults and historic records suggest that the probability of large
9 magnitude events occurring in the Planning Area is very low. Furthermore, the
10 potential for structural damage from seismic hazards is minimized for all types of
11 new development, which must be constructed in accordance with applicable CBC
12 requirements (see the “Regulatory Background” subsection below for details).

13 Older buildings constructed before building codes were in effect are most likely to
14 suffer damage in an earthquake. Many of Loomis’s buildings are one or two stories
15 high, and of wood frame construction, which is considered relatively resistant to
16 earthquake damage. However, the Town also includes older buildings constructed
17 with unreinforced masonry, which are highly susceptible to damage from severe
18 groundshaking (Town of Loomis 1998). The Downtown area in particular includes a
19 high percentage of older buildings with brick facades, indicating that this portion of
20 the community is at relatively higher risk.

21 **Liquefaction**

22 Liquefaction is restricted to certain geologic and hydrologic environments, primarily
23 Holocene-age loose (unconsolidated), water-saturated, fine grained sand and silt in
24 areas with high groundwater levels. The process of liquefaction involves seismic
25 waves passing through saturated granular layers, distorting the granular structure,
26 and causing the particles to collapse. This causes the granular layer to behave
27 temporarily as a viscous liquid rather than a solid, resulting in liquefaction.

28 Liquefaction can cause the soil beneath a structure to lose strength, which may
29 result in the loss of foundation-bearing capacity. This loss of strength commonly
30 causes the structure to settle or tip. Loss of bearing strength can also cause light
31 buildings with basements, buried tanks, and foundation piles to rise buoyantly
32 through the liquefied soil.

1 Because the Planning Area is composed of solid, Jurassic-age bedrock, the potential
2 for liquefaction is generally low. Although the Holocene-age alluvial deposits present
3 along the ravines and creeks (i.e., Antelope Creek, Secret Ravine, and Sucker Ravine)
4 are more susceptible to liquefaction, these deposits are underlain by bedrock at a
5 shallow depth, and given that the potential for strong seismic ground shaking is low,
6 liquefaction is unlikely to represent a hazard in the Planning Area. There are no
7 liquefaction Seismic Hazard Zones delineated by California Geological Survey in the
8 Planning Area.

9 **Subsidence**

10 Seismically-induced subsidence is the compaction of soils and alluvium caused by
11 groundshaking. It occurs irregularly and is largely a function of the underlying soils.
12 Depending on the event, the amount of compaction can vary from a few inches to
13 several feet. Because the Planning Area is composed of solid, Jurassic-age bedrock,
14 the potential for subsidence is generally low. Although the Holocene-age
15 unconsolidated alluvial deposits along Antelope Creek, Secret Ravine, and Sucker
16 Ravine are more susceptible to subsidence, significant subsidence problems have
17 not been identified in the Planning Area. Furthermore, given the low probability of
18 strong seismic ground shaking, seismically-induced settlement is unlikely to
19 represent a substantial hazard in the Planning Area.

20 **Lurch Cracking and Lateral Spreading**

21 Lateral spreading is lateral ground movement, with some vertical component, as a
22 result of liquefaction. In effect, the soil rides on top of the liquefied layer outward
23 from under buildings, roads, pipelines, transmission towers, railroad tracks, and
24 other structures such as bridges. Damage is usually greatest to large or heavy
25 structures on shallow foundations, and takes the form of cracking, tilting, and
26 differential settlement. Where gentle slopes exist such as on stream or slough
27 banks, liquefaction may cause lateral spreading landslides. Whole buildings can be
28 moved downslope by this type of ground failure. Where the condition is known to
29 exist, structural and foundation design can usually minimize or eliminate
30 liquefaction hazard to new construction. Lateral spreading can also occur on
31 relatively flat sites with slopes less than 2 percent, under certain circumstances, and
32 can cause ground cracking and settlement. Lurching is the movement of the ground

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1 surface toward an open face when the soil liquefies. An open face could be a graded
2 slope, stream bank, canal face, gully, or other similar feature. The potential for these
3 hazards is greatest on Holocene-age unconsolidated alluvial deposits where the
4 groundwater table is high. In the Planning Area, this would include areas adjacent to
5 Antelope Creek, Secret Ravine, and Sucker Ravine. However, given the low
6 probability for strong seismic ground shaking or liquefaction, seismically-induced
7 lateral spreading or lurching is unlikely to represent a substantial hazard in the
8 Planning Area.

9 **Seiches and Tsunamis**

10 Seiches are earthquake-generated waves within enclosed or restricted bodies of
11 water. However, because no sizable lakes or reservoirs are present in the Planning
12 Area, and the location of highest probability of impact within Placer County are
13 shore areas of Lake Tahoe over 50 straight-line miles away, there are no seiche
14 hazards. A tsunami is a series of waves in a water body resulting from the
15 displacement of a large volume of water. Tsunamis are generally caused by
16 earthquakes or undersea volcanic eruptions. Because the Planning Area is
17 approximately 100 miles from the Pacific Ocean, tsunamis do not represent a
18 hazard.

19 ***Landslides***

20 Landslides may be triggered by numerous processes including oversaturated soils
21 (after heavy rains) or by earthquakes. Landslide potential is highest in steeply-
22 sloped areas, particularly those areas underlain with saturated and unconsolidated
23 soil. As shown in Figure 7-3, the steepest slopes in Loomis are located west of
24 Antelope Creek (west of Sierra College Boulevard), and in the southern portion of
25 the Planning Area. Some slopes exceed 45 percent in these areas. However, the
26 underlying geology of the area is generally quartz diorite with outcrops of Mehrten
27 volcanics; these are solid geologic foundation materials not highly susceptible to
28 landslides. Most other portions of the Planning Area are relatively level or gently
29 sloping, and thus are not susceptible to landslides. There are no landslide Seismic
30 Hazard Zones delineated by California Geological Survey in the Planning Area.

1 **Soil Hazards**

2 Soils in the Planning Area are shown on Figure 7-4. Table 7-1 provides data on the
3 soil types found in the Planning Area based on the Natural Resources Conservation
4 Service (NRCS 2020) soil survey data.

5 **Erosion**

6 Erosion is the detachment and movement of soil materials through natural
7 processes or human activities. In general, rates of erosion can vary depending on
8 the soil's capacity to drain water, slope angle and length, extent of groundcover, and
9 human influence. Human activities, such as earthmoving activities during
10 construction, can expose soil to water erosion during the winter rainy season.
11 Stormwater runoff can transport sediment into storm drains and local waterbodies,
12 which can in turn degrade existing water quality and impair beneficial uses
13 designated in the Basin Plan. In extreme cases of erosion, watercourses can be
14 downcut and gullies develop that can eventually undermine adjacent structures or
15 vegetation.

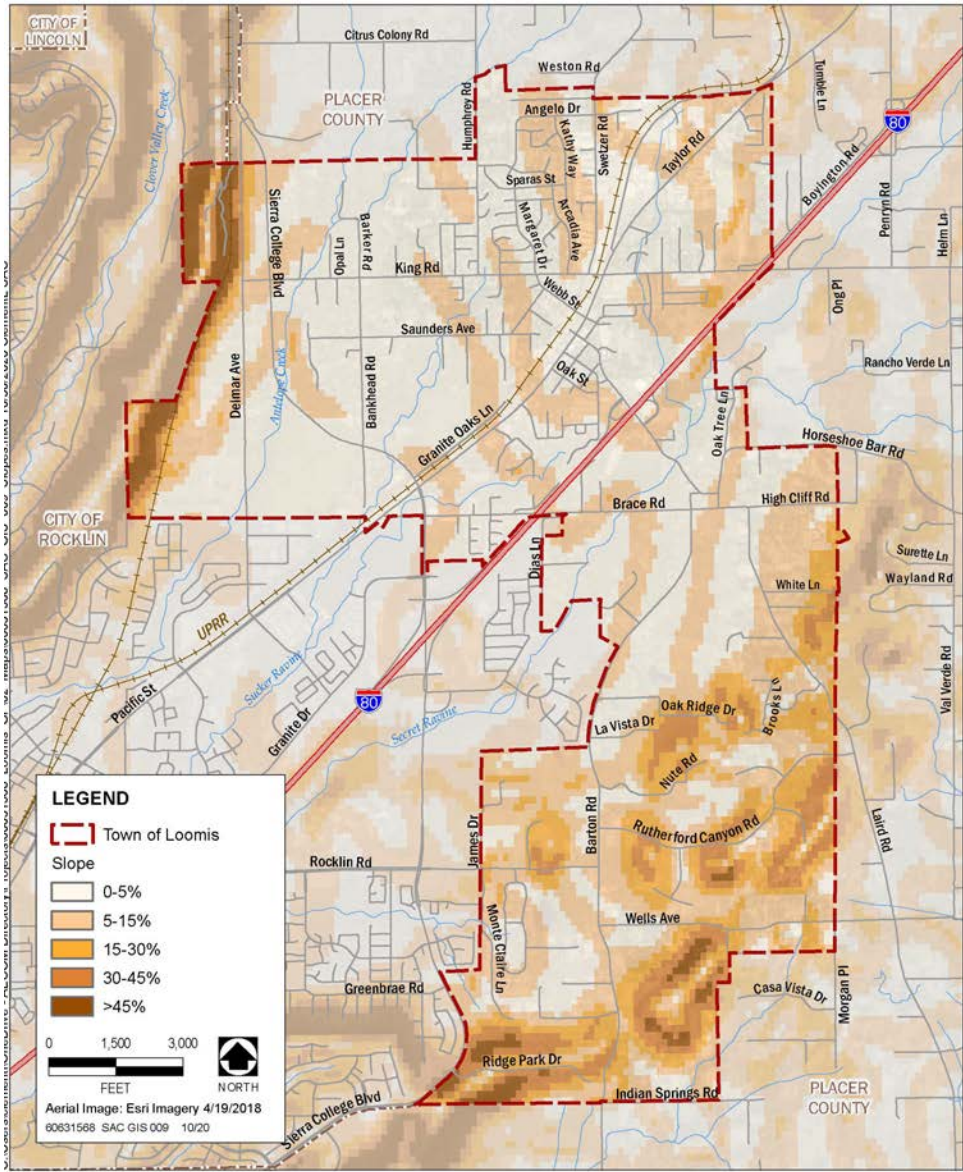
16 Most soils can be categorized into hydrologic soil groups (which apply only to
17 surface soil layers) based on runoff-producing characteristics. Hydrologic soil groups
18 are factored into calculations of erosion potential when drainage plans are
19 prepared. The Andregg soils, which comprise most of the Planning Area, have low
20 water erosion hazard, a moderately high wind hazard, and a moderate runoff
21 potential. The remaining soils in the Planning Area contain greater amounts of
22 cobbles and rocks and are located on sloped areas; these soils have a low wind
23 erosion hazard, a low to moderate water erosion hazard, but a high runoff potential
24 (see Table 7-1) (NRCS 2020).

25

26

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1 **Figure 7-3: Slopes in the Planning Area**



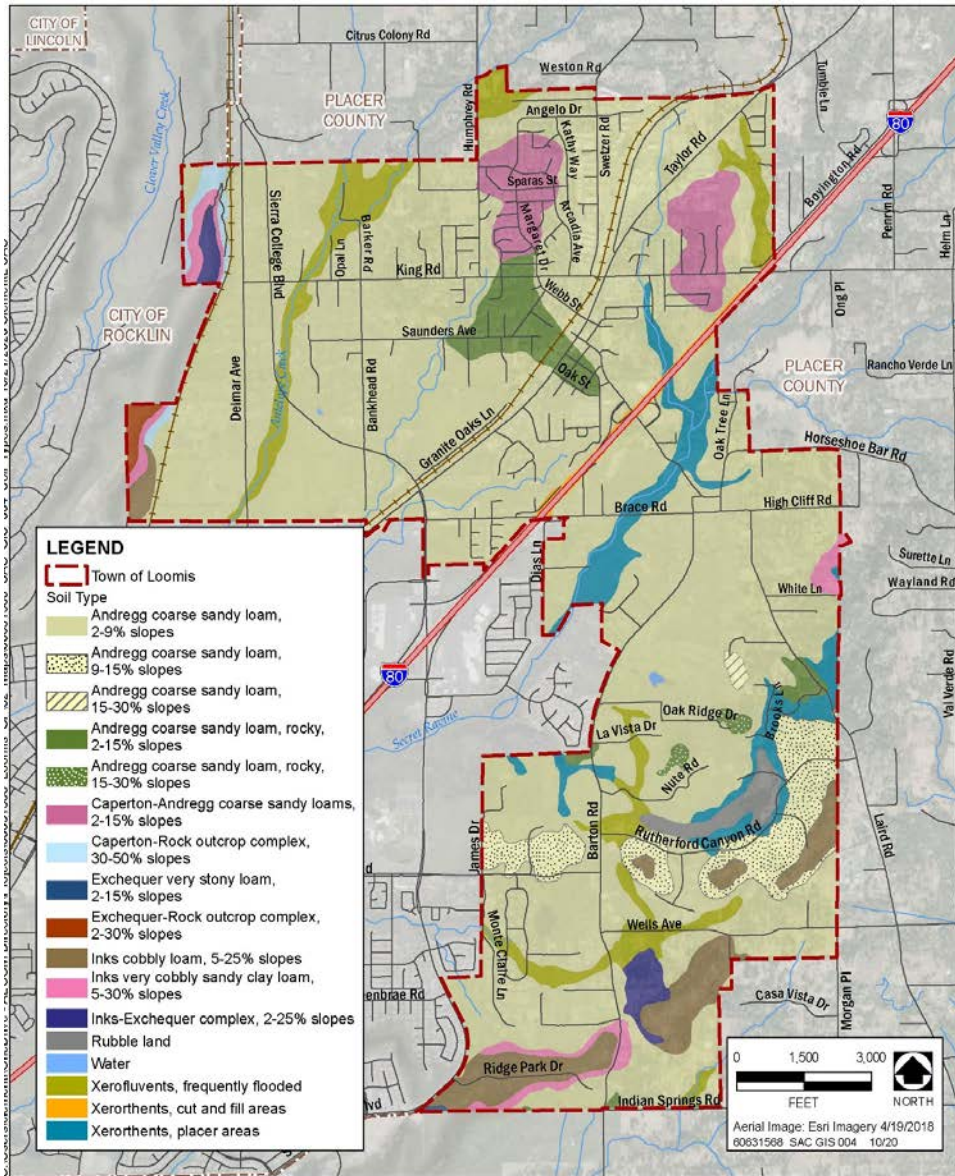
Source: Placer County 2020

Slope Analysis
 Town of Loomis General Plan and EIR



2

1 **Figure 7-4: Soils in the Planning Area**



Soil Types

Town of Loomis General Plan and EIR



2

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Table 7-1: Soil Characteristics in the Planning Area

Soil Type	Shrink-Swell Potential¹	Permeability²	Drainage	Suitability for Conventional Septic Systems	Water Erosion Hazard³	Wind Erosion Hazard⁴	Hydrologic Group (Runoff Potential)⁵	Limitations for Development
Andregg coarse sandy loam, 2-9% slopes	Low	High	Well drained	Very limited	Low	3	B	Dwellings and Local Roads and Streets: Not limited Small Commercial Buildings: Somewhat limited (slope)
Andregg coarse sandy loam, 9-15% slopes	Low	High	Well drained	Very limited	Low	3	B	Dwellings and Local Roads and Streets: Somewhat limited (slope) Small Commercial Buildings: Very limited (slope)

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Table 7-1: Soil Characteristics in the Planning Area

Soil Type	Shrink-Swell Potential¹	Permeability²	Drainage	Suitability for Conventional Septic Systems	Water Erosion Hazard³	Wind Erosion Hazard⁴	Hydrologic Group (Runoff Potential)⁵	Limitations for Development
Andregg coarse sandy loam, 15-30% slopes	Low	High	Well drained	Very limited	Low	3	B	Dwellings, Small Commercial Buildings, and Local Roads and Streets: Very limited (slope)
Andregg coarse sandy loam, rocky, 2-15% slopes	Low	High	Well drained	Very limited	Low	3	B	Dwellings and Local Roads and Streets: Somewhat limited (slope) Small Commercial Buildings: Very limited (slope)

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Table 7-1: Soil Characteristics in the Planning Area

Soil Type	Shrink-Swell Potential ¹	Permeability ²	Drainage	Suitability for Conventional Septic Systems	Water Erosion Hazard ³	Wind Erosion Hazard ⁴	Hydrologic Group (Runoff Potential) ⁵	Limitations for Development
Andregg coarse sandy loam, rocky, 15-30% slopes	Low	High	Well drained	Very limited	Low	3	B	Dwellings, Small Commercial Buildings, and Local Roads and Streets: Very limited (slope)
Caperton-Andregg coarse sandy loams, 2-15% slopes	Low	High	Somewhat excessively drained	Very limited	Moderate	3	D	<i>Dwellings and Local Roads and Streets:</i> Somewhat limited (slope, shallow depth to bedrock) <i>Small Commercial Buildings:</i> Very limited (slope, shallow depth to bedrock)

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Table 7-1: Soil Characteristics in the Planning Area

Soil Type	Shrink-Swell Potential¹	Permeability²	Drainage	Suitability for Conventional Septic Systems	Water Erosion Hazard³	Wind Erosion Hazard⁴	Hydrologic Group (Runoff Potential)⁵	Limitations for Development
Caperton-Rock outcrop complex, 30-50% slopes	Low	High	Somewhat excessively drained	Very limited	Moderate	5	D	<i>Dwellings and Small Commercial Buildings: Very limited (slope, shallow depth to bedrock)</i>
Exchequer very stony loam, 2-15% slopes	Low	High	Somewhat excessively drained	Very limited	Low	7	D	Dwellings, Small Commercial Buildings, and Local Roads and Streets: Very limited (shallow depth to bedrock, large stones)

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Table 7-1: Soil Characteristics in the Planning Area								
Soil Type	Shrink-Swell Potential ¹	Permeability ²	Drainage	Suitability for Conventional Septic Systems	Water Erosion Hazard ³	Wind Erosion Hazard ⁴	Hydrologic Group (Runoff Potential) ⁵	Limitations for Development
Exchequer-Rock outcrop complex, 2-30% slopes	Low	High	Somewhat excessively drained	Very limited	Low	7	D	Dwellings, Small Commercial Buildings, and Local Roads and Streets: Very limited (slope, shallow depth to bedrock, large stones)

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Table 7-1: Soil Characteristics in the Planning Area

Soil Type	Shrink-Swell Potential¹	Permeability²	Drainage	Suitability for Conventional Septic Systems	Water Erosion Hazard³	Wind Erosion Hazard⁴	Hydrologic Group (Runoff Potential)⁵	Limitations for Development
Inks cobbly loam, 5-25% slopes	Low	Moderately high	Well drained	Very limited	Moderate	7	D	Dwellings, Small Commercial Buildings, and Local Roads and Streets: Very limited (slope, shallow depth to bedrock, large stones)

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Table 7-1: Soil Characteristics in the Planning Area

Soil Type	Shrink-Swell Potential¹	Permeability²	Drainage	Suitability for Conventional Septic Systems	Water Erosion Hazard³	Wind Erosion Hazard⁴	Hydrologic Group (Runoff Potential)⁵	Limitations for Development
Inks very cobbly sandy clay loam, 5-30% slopes	Low	Moderately high	Well drained	Very limited	Low	7		<i>Dwellings and Local Roads and Streets: Somewhat limited (slope, shallow depth to bedrock) Small Commercial Buildings: Very limited (slope, shallow depth to bedrock)</i>

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Table 7-1: Soil Characteristics in the Planning Area

Soil Type	Shrink-Swell Potential ¹	Permeability ²	Drainage	Suitability for Conventional Septic Systems	Water Erosion Hazard ³	Wind Erosion Hazard ⁴	Hydrologic Group (Runoff Potential) ⁵	Limitations for Development
Inks-Exchequer complex, 2-25% slopes	Low	Moderately high	Well drained	Very limited	Low	6	D	<i>Dwellings and Local Roads and Streets:</i> Somewhat limited (slope, shallow depth to bedrock, large stones) <i>Small Commercial Buildings:</i> Very limited (slope, shallow depth to bedrock, large stones)

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Table 7-1: Soil Characteristics in the Planning Area

Soil Type	Shrink-Swell Potential¹	Permeability²	Drainage	Suitability for Conventional Septic Systems	Water Erosion Hazard³	Wind Erosion Hazard⁴	Hydrologic Group (Runoff Potential)⁵	Limitations for Development
Rubble land	Low	Very high	Excessively drained	Very limited	NR	NR	NR	Dwellings and Small Commercial Buildings: Very limited (large stones, slope) <i>Local Roads and Streets:</i> Very limited (low strength, large stones, slope)

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Table 7-1: Soil Characteristics in the Planning Area

Soil Type	Shrink-Swell Potential ¹	Permeability ²	Drainage	Suitability for Conventional Septic Systems	Water Erosion Hazard ³	Wind Erosion Hazard ⁴	Hydrologic Group (Runoff Potential) ⁵	Limitations for Development
Xerofluvents ⁶ , frequently flooded	Moderate	High	Somewhat poorly drained	Very limited	Moderate	3	B	Dwellings, Small Commercial Buildings, and Local Roads and Streets: Very limited (Flooding, shrink-swell potential)
Xerorthents ⁷ , cut and fill areas	NR	NR	Well drained	NR	NR	NR	NR	NR
Xerorthents ⁷ , placer areas	NR	NR	Well drained	NR	NR	NR	NR	NR

Source: Natural Resources Conservation Service 2020

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Table 7-1: Soil Characteristics in the Planning Area

Soil Type	Shrink-Swell Potential¹	Permeability²	Drainage	Suitability for Conventional Septic Systems	Water Erosion Hazard³	Wind Erosion Hazard⁴	Hydrologic Group (Runoff Potential)⁵	Limitations for Development
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Notes: NR = not rated

¹ Based on percentage of linear extensibility, shrink-swell potential ratings of “moderate” to “very high” can result in damage to buildings, roads, and other structures.

² Based on standard NRCS saturated hydraulic conductivity (Ksat) class limits. Ksat refers to the ease with which pores in a saturated soil transmit water.

³ Based on the erosion factor “Kw whole soil,” which is a measurement of relative soil susceptibility to sheet and rill erosion by water.

⁴ Soils assigned to wind erodibility group 1 are the most susceptible to wind erosion, and those assigned to group 8 are the least susceptible.

⁵ Hydrologic soil groups are based on estimated runoff potential: Group A = high infiltration rate and low runoff potential, Group B = moderate infiltration rate and moderate runoff potential, Group C = slow infiltration rate and high runoff potential, Group D = very slow infiltration rate and very high runoff potential.

⁶ These soils are found as narrow stringers of recent alluvium adjacent to stream channels; they consist of stratified gravelly clay or sandy loams that generally grade to sand and gravel with increasing depth.

⁷ Xerorthents are materials that have modified by human activity. In cut-and-fill areas the soil has been rearranged and may include artificial fill. In placer areas, the soil consists of stony, cobbly and gravelly material commonly adjacent to streams that have been placer mined.

1

1 **Unstable Soils**

2 Soil properties influence the development of building sites, including the site
3 selection, structure design, construction, performance after construction, and site
4 and structure maintenance.

5 Shrink-swell potential is the relative change in volume that occurs with changes in
6 moisture content. In other words, the extent to which the soil shrinks as it dries out
7 or swells when it gets wet. Shrinking and swelling is influenced by the amount of
8 clay in the soil. Shrinking and swelling of soils can cause damage to building
9 foundations, roads, and other structures. Damage, such as cracking of foundations,
10 results from differential movement and from the repetition of the shrink-swell cycle.
11 Hazards from construction in areas with moderate to high shrink-swell potential can
12 be remediated by removing the clay layer in the soil and replacing it with compacted
13 artificial fill, or by soil treatment with lime. As shown in Table 7-1, Planning Area soils
14 have a low clay content and a low shrink-swell potential (NRCS 2020).

15 The NRCS (2020) soil database indicates the limitations of soils with respect to
16 dwellings, local roads and streets, and small commercial buildings. The rating
17 system indicates the extent to which the soils are limited by the soil features that
18 affect building site development. NRCS soil limitations are based on the soil
19 properties that affect the capacity of the soil to support a load without movement,
20 and on the properties that affect excavation and construction costs. Hazards from
21 unstable soils can also result from low bearing strength. In addition, subsidence and
22 liquefaction can occur from the weight of construction equipment in areas where a
23 clay layer is present at a shallow depth, combined with a shallow groundwater table.
24 However, as shown in Table 7-1, these hazards are not present in the Planning Area.
25 The NRCS has rated most Planning Area soils with limitations related to a shallow
26 depth to bedrock, slope, and large stones (see Table 7-1).

27 **Soil Suitability for Septic Systems**

28 A conventional septic system consists of a septic (holding) tank and a leachfield
29 (generally consisting of perforated pipe on top of gravel). Effluent filters through the
30 gravel and into the soil below. For a septic system to function properly, soils must
31 percolate (or “perc”)—that is, a certain volume of wastewater must flow through the

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1 soil in a certain time period, as determined by a licensed engineer. Wastewater is
2 “treated” as soil bacteria feed on the waste material and in the process, break down
3 the material into more basic elements that are dispersed into the lower layers of the
4 soil horizon. If wastewater percolates through the soil too quickly, the bacteria do
5 not have enough time to digest the material. On the other hand, if wastewater
6 percolates through the soil too slowly, the bacteria are killed by the lack of oxygen.

7 Soils in the Planning Area consist of a shallow layer of silt, sand, or cobbles,
8 underlain by bedrock. These shallow soils have a high to moderately high
9 permeability (i.e., a low water holding capacity) and thus tend to “perc” too quickly,
10 rendering them unsuitable for septic systems. Based on a review of NRCS (2020) soil
11 data, all of the soils in the Planning Area are rated as very limited for conventional
12 septic systems. However, in most instances, a licensed engineer can design an
13 alternative septic system that is suitable for single-lot residential use even where soil
14 conditions are not optimal.

15 ***Naturally Occurring Asbestos***

16 Certain areas of Placer County, such as Iowa Hill, are known to contain naturally-
17 occurring asbestos (NOA). Asbestos is the common name for a group of silicate
18 minerals that can separate into thin but strong and durable fibers. If these fibers are
19 inhaled, they can cause lung cancer and mesothelioma. The presence of asbestos in
20 nature is related to the chemistry of rocks in an area and the different geologic
21 processes that have acted on those rocks through time. NOA is found primarily in
22 ultramafic rocks and serpentinite, but has also been reported in mafic metavolcanic
23 rocks, and metamorphosed or altered gabbro. Also, soils derived from weathering
24 of ultramafic rocks and serpentinite may contain NOA (Higgins and Clinkenbeard
25 2006). As described previously, the geologic formations in the Town consist of quartz
26 diorite, volcanic ash and mudflow deposits, quartzose sandstone and claystone, and
27 alluvial deposits. As a result, NOA does not represent a hazard in the Town.

28 **Wildland & Urban Fire Hazards**

29 Loomis faces two types of fire hazards that threaten lives and property: urban and
30 wildland fires. Wildland fires may also result in the loss of natural vegetation, loss of

1 agricultural crops, and soil erosion. The threat posed by each type of fire hazard is
2 described below.

3 ***Wildland Fires***

4 The outbreak and spread of wildland fires within the Planning Area is a potential
5 danger, particularly during the dry summer and fall months. Various factors
6 contribute to the intensity and spread of wildland fires: humidity, wind speed and
7 direction, vegetation type, the amount of vegetation (fuel), and topography. Wildland
8 fires can be caused by lightning strikes, malfunctioning equipment and vehicle
9 engines, arson, or simple carelessness.

10 Based on wildfire hazard mapping conducted by the California Department of
11 Forestry and Fire Protection (CAL FIRE 2020), the Planning Area is located with a
12 Local Responsibility Area. Therefore, the primary responsibility for firefighting
13 efforts lies with local agencies; in this case, the South Placer Fire District (which
14 consolidated with the Loomis Fire Protection District in 2017). No Very High Fire
15 Severity Zones have been designed by California Department of Forestry and Fire
16 Protection (CAL FIRE) in the Planning Area. Rural areas immediately adjacent to the
17 north and east of the Planning Area are located within a State Responsibility Area,
18 meaning that CAL FIRE is primarily responsible for fire-fighting efforts, and these
19 areas have been identified by CAL FIRE as moderate fire hazard severity zones.

20 The rural portions of the Planning Area, along with the adjacent rural areas to the
21 north and east in Placer County, all consist of extensive grasslands and oak
22 woodlands in rolling terrain, and are subject to hot, dry summers with frequent
23 wind gusts. Grassland fires are not as potentially intensive as mountainous brush
24 and tree fires (which are generally classified as High or Very High Fire Hazard
25 Severity Zones). Because the topography, climate, and vegetation of the rural
26 portions of the Planning Area are the same as those designated by CAL FIRE as
27 Moderate Fire Hazard Severity Zones to the north and east, the Town of Loomis, in
28 conjunction with Placer County (2016), has determined that these rural portions of
29 the Planning Area should also be considered as Moderate Fire Hazard Severity
30 Zones. Finally, the Town has designated a small portion of the Planning Area south
31 of Brace Road, southwest of Secret Ravine, as a High Fire Hazard Severity Zone (see
32 Figure 7-5).

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1 California Public Resources Code Section 4291 requires property owners to maintain
2 a minimum of 100 feet of defensible space around structures. A description of the
3 specific vegetative management actions required within the 100-foot zone is
4 available from CAL FIRE ([https://www.readyforwildfire.org/prepare-for-wildfire/get-
5 ready/defensible-space/](https://www.readyforwildfire.org/prepare-for-wildfire/get-ready/defensible-space/)). Loomis Municipal Code Section 13.34.050 states that on
6 sites in heavily wooded and/or vegetated areas of the Planning Area identified by
7 the fire district as being fire-prone, fire prevention will be addressed by providing
8 fire-resistant landscaping buffers between development areas and naturally
9 vegetated areas. Outdoor burn permits, for burning of vegetative materials, are
10 required between April 15 and December 1 of each year (Loomis Municipal Code
11 Section 7.08.010). Roadway widths and turning radii requirements in the Planning
12 Area have been designed to allow for appropriate emergency access; these
13 requirements are set forth in the Town of Loomis Land Development Manual (2004),
14 which has been adopted in Loomis Municipal Code Section 9.04.010. Peaking factors
15 in terms of water supply for firefighting efforts are addressed in Volume III, Chapter
16 5, Public Services and Facilities.

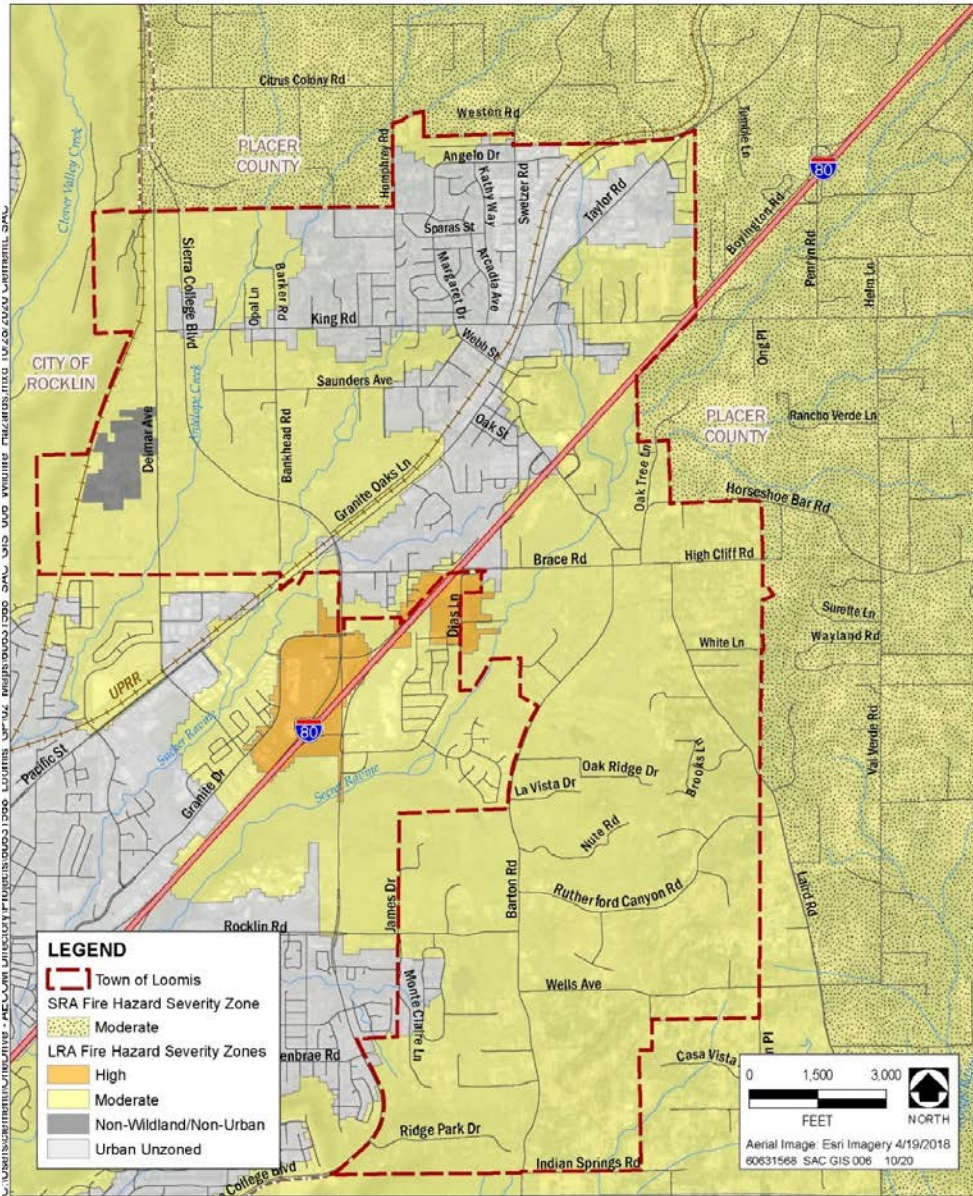
17 Although small grass fires are common in the Planning Area, they have historically
18 been limited in size by prompt emergency response. In 2002, the Planning Area was
19 affected by the Sierra Fire, which burned 900 acres, including six structures.

20 ***Urban Fires***

21 Urban fires are primarily those associated with structures and the activities in and
22 around them. Most urban fires are caused by human activity. Over the years,
23 development standards have become more stringent to reduce the frequency and
24 severity of such events. Building codes now require fire walls for adjacent structures.
25 Local ordinances often prohibit the use of fire-prone materials, such as shake-
26 shingle roofs. Electrical standards have also changed to reduce fire risk inside
27 structures. Smoke detectors are now commonly required.

28

1 **Figure 7-5: Wildland Fire Hazards**



Wildfire Hazards
Town of Loomis General Plan and EIR



2

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1 Urban fire hazards are greatest in areas containing older buildings that do not meet
2 current building code requirements. Earthquakes or floods may rupture buried
3 natural gas lines, while high winds or accidents could cause overhead electric lines
4 to break. Either condition could result in a fire. In recent years, electric utility
5 providers have taken the step of temporarily de-energizing the power grid during
6 high wind events, particularly in the fall months when the fire danger is greatest, in
7 order to avoid fires from overhead power lines and transformers.

8 Once an urban fire starts, fast emergency response is critical to ensure that the fire
9 does not spread. Urban fires by their nature occur in areas with a high density of
10 human occupation and property. Therefore, the threat to life and property is high.

11 **Evacuation Routes**

12 Evacuation routes are necessary for the safe and effective community response to a
13 wildland fire or any other incident that may require an evacuation of the community.
14 An Evacuation Warning means that an event is approaching, and residents and
15 employees should be prepared to leave. Mandatory evacuation is reserved for
16 incidents of extreme severity or imminent loss of life. Mandatory evacuation
17 involves the complete removal of all civilians from a given area.

18 The Planning Area encompasses the north and south sides of I-80, which is the
19 primary evacuation route for planning area residents and workers. Barton Road, a
20 two-lane arterial, is the primary north-south roadway that serves the Planning Area
21 south of I-80. Brace Road, Rutherford Canyon Road, Wells Avenue, and a variety of
22 other east-west roadways provide evacuation routes south of I-80. North of I-80,
23 Sierra College Boulevard (north-south) and King Road (east-west) both provide direct
24 freeway access. Union Pacific Railroad tracks bisect the Planning Area in a northeast-
25 southwest direction, on the west side of I-80. The railroad tracks serve as a barrier to
26 evacuation in the event of an emergency for the northwestern portion of the
27 planning area; the only roadways west of I-80 that include railroad crossings are
28 Sierra College Boulevard and King Road. Residents and workers must cross the
29 railroad tracks at one of these two locations in order to reach I-80.

30 Significant loss of life has occurred during wildland fires in several areas of the state
31 when only one evacuation route has been available. California Government Code

1 Section 65302(g)(5) requires the General Plan Safety Element to identify residential
2 developments in any identified hazard area that do not have at least two emergency
3 evacuation routes. All newer residential subdivisions are required by law to have at
4 least two points of ingress and egress. However, there are single-family residences
5 in rural portions of the Planning Area that have only one point of ingress/egress,
6 where those residences are located on a “dead-end” street.

7 **Flooding Hazards**

8 ***Flood Protection***

9 The Placer County Flood Control District collaborates with Placer County
10 communities and cities, including Loomis, to protect lives and property from the
11 effects of flooding. The Placer County Flood Control District implements regional
12 flood control projects, develops and implements master plans for selected
13 watersheds in the county, provides technical support and information on flood
14 control; operates and maintains an Alert flood warning system; reviews proposed
15 development projects to ensure they meet Placer County Flood Control District flood
16 control standards; develops hydrologic and hydraulic models for county watersheds;
17 provides technical support for Office of Emergency Services activities; and manages
18 the annual stream channel maintenance program within the Dry Creek Watershed.

19 The Placer County Flood Control District is collaborating with Federal Emergency
20 Management Agency (FEMA) through the Cooperating Technical Partners Program
21 to maintain up-to-date floodplain mapping and other flood hazard information
22 within Placer County. The main objective of the program is to provide new or
23 improved 1 percent annual chance floodplain, or 100-year, mapping of major creeks
24 within developing areas of the county, including the Town of Loomis. Updated
25 floodplain mapping for the Planning Area was completed and approved by FEMA in
26 2018.

27 The Planning Area is located within the Dry Creek Watershed (hydrologic unit code
28 [HUC] Code 10). The most recent update to the Dry Creek Watershed Flood Control
29 Plan was prepared by the Placer County Flood Control District in 2011. The Dry
30 Creek Flood Control Plan identifies known flood hazard locations and causes, and

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1 includes potential projects that could be implemented to improve flood control
2 throughout the watershed. The Dry Creek Flood Control Plan includes identification
3 of bridges and culverts that require flood control improvements, options for
4 regional flood control detention basins, channel improvement and restoration
5 opportunities, and non-structural flood hazard reduction measures such as low
6 impact development (LID) features. The Dry Creek Flood Control Plan assigns
7 responsibilities to the Town of Loomis for continuing its capital improvement
8 program, specifically the replacement of undersized culverts and stream crossings.
9 The Antelope Creek Flood Control Project, one of the high-priority flood control
10 projects recommended in the Dry Creek Watershed Flood Control Plan, will provide
11 substantial mitigation for increases in urban runoff and peak flood flow increases
12 due to new and existing development in the watershed. A portion of the Antelope
13 Creek Flood Control Project has been implemented, at the upstream end of the
14 creek. The downstream portion of the project is pending, depending on the
15 availability of funding.

16 Storm drain development criteria in the Planning Area are based on the Placer
17 County Flood Control District's Stormwater Management Manual (1990). The Placer
18 County Flood Control District's Stormwater Management Manual requires that new
19 storm drain facilities be designed to convey the runoff from a 10-year storm event.

20 ***Effects of Flooding***

21 Flooding can cause widespread damage to affected areas. Buildings and vehicles
22 can be damaged or destroyed, while smaller objects can be buried in flood-
23 deposited sediments. Floods can also cause drowning or isolation of people or
24 animals. In addition, floodwaters can break utility lines, interrupting services and
25 potentially affecting health and safety, particularly in the case of broken sewer or
26 gas lines.

27 The secondary effects of flooding are due to standing water, which can result in crop
28 damage, septic tank failure, and well water contamination. Standing water can also
29 damage roads, foundations, and electrical circuits.

1 ***Storm Drainage***

2 Flooding and drainage problems in the Planning Area are caused either by creek
3 overflow or by storm drain problems. The Planning Area is located in the Dry Creek
4 Watershed (HUC Code 10) within the larger Lower American River Watershed (HUC
5 Code 8). Three tributaries to Dry Creek flow through the Planning Area: Antelope
6 Creek, Sucker Ravine, and Secret Ravine. Antelope Creek drains western Loomis and
7 joins Dry Creek south of Loomis. Sucker Ravine flows into Secret Ravine downstream
8 of Loomis. Secret Ravine flows into Miners Ravine and on to Cirby Creek in Roseville.
9 Cirby Creek discharges into Dry Creek. Dry Creek flows through Placer and
10 Sacramento counties to the Natomas East Main Drainage Canal/Steelhead Creek in
11 Sacramento, from which the water is eventually discharged into the Sacramento
12 River.

13 The Planning Area drainage system relies in large part on natural water courses and
14 to a lesser extent on pipe and channel storm drain systems. Loomis has a limited
15 number of storm drain facilities. The Town of Loomis Drainage Master Plan
16 maintains the concept of open drainage ditches and cross culverts, and focuses on
17 small-scale improvements to address problem areas.

18 Much of the Planning Area relies on natural drainage courses, overland flow, swales,
19 and roadside ditches to dispose of local runoff. These are supplemented with
20 culverts under roads and cross culverts under driveways. Large storms result in an
21 increase in water flow rates and water volume and can cause temporary local
22 flooding in all drainage ways, both natural and manmade. All of the storm drains in
23 the Planning Area discharge into one of the aforementioned three Dry Creek
24 tributaries.

25 ***Flood Hazard Zones***

26 Loomis is a participant in the National Flood Insurance Program (NFIP). For a
27 community to participate in the NFIP, it must adopt and enforce floodplain
28 management regulations that meet or exceed the minimum NFIP standards and
29 requirements contained in the Code of Federal Regulations Chapter 44. These
30 standards are intended to prevent loss of life and property, as well as economic and
31 social hardships that result from flooding. The Town's Floodplain Management

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1 Regulations are contained in Loomis Municipal Code Chapter 11.08, Flood Damage
2 Prevention.

3 Flooding has historically been a relatively minor hazard in the Planning Area,
4 primarily due to its relatively elevated location within the middle Dry Creek
5 watershed. The lower portions of the Dry Creek watershed, south of the Planning
6 Area, have historically been hit hard by flooding, particularly in the Roseville area
7 (where tributaries of Dry Creek converge) and in the flatlands in the Rio Linda area.

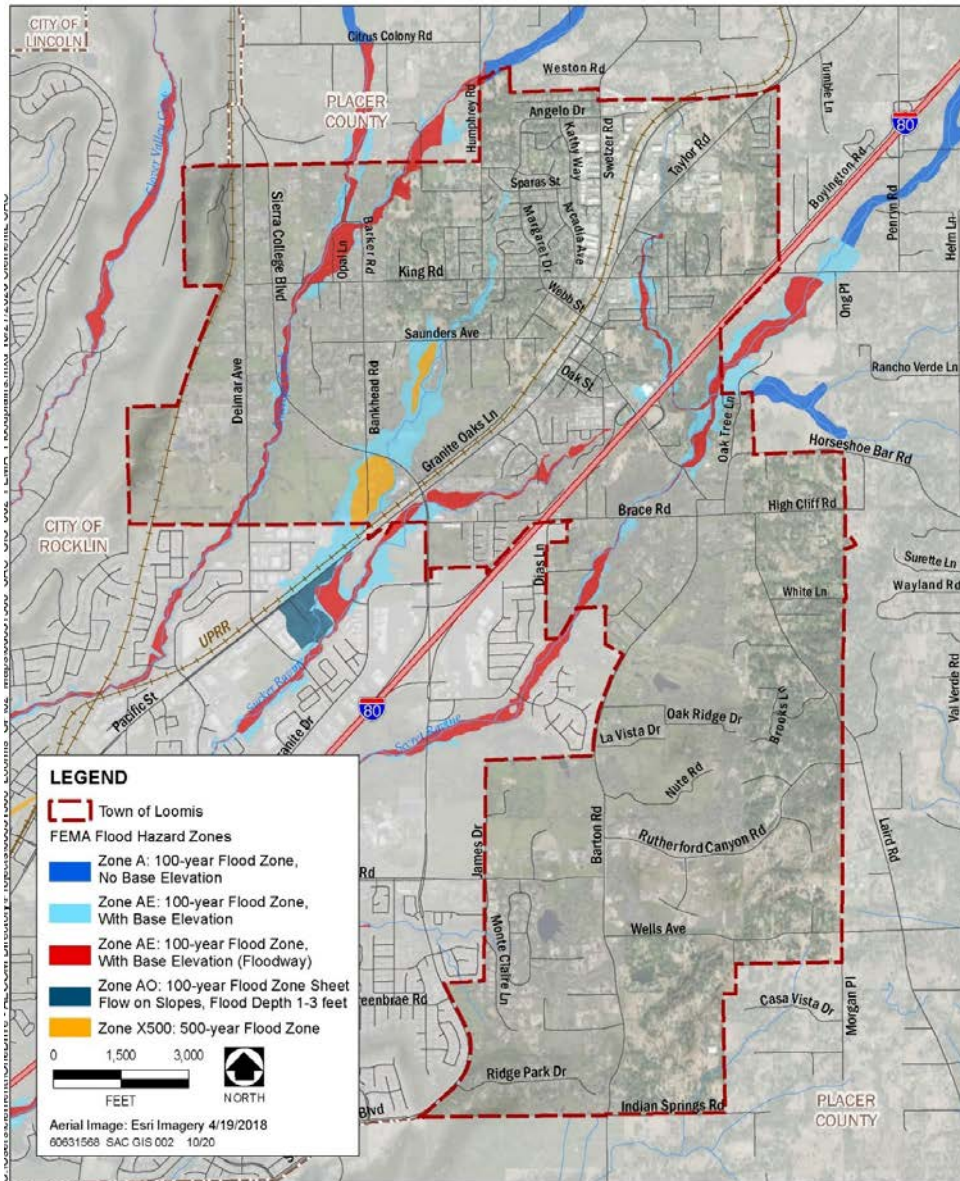
8 The Flood Insurance Rate Map (FIRM) produced by FEMA in 2018 identifies special
9 flood hazard areas in the Planning Area, focusing on areas that could be inundated
10 in the event of a 100-year flood (which statistically has a 1 percent chance of
11 occurring in any given year). Residential, commercial, and industrial properties
12 located in a 100-year flood zone require flood insurance. The locations of 100-year
13 and 500-year flood plains generally occur along Secret Ravine, Antelope Creek,
14 Sucker Ravine, and their tributaries (see Figure 7-6). No 200-year flood zones or
15 California Department of Water Resources (DWR) awareness floodplains have been
16 mapped in the Planning Area (DWR 2008).

17 ***Local Flooding Concerns***

18 As discussed in the Town of Loomis Drainage Master Plan (West Yost Associates
19 2008), a few inadequately-sized culverts and bridges create impediments to the
20 passage of high water flow in streams and gullies, and result in flooding hazards in
21 the Planning Area. Undersized infrastructure typically results in short-term back-ups
22 behind the culvert or bridge, with pooling water in such areas, in effect, an
23 unintended detention basin.

24 Areas of potential concern in Loomis could include culverts under I-80; the
25 Horseshoe Bar Road crossing over Secret Ravine; the railroad and Taylor Road
26 crossing of Sucker Ravine; and various crossings of Antelope Creek and its
27 tributaries at King Road and Sierra College Boulevard. The Brace Road bridge
28 crossing over Secret Ravine is identified in the Dry Creek Watershed Flood Control
29 Plan as a priority replacement project. Most storm drains are adequately sized to
30

1 **Figure 7-6: Flood-Hazard Zones in the Planning Area**



Source: FEMA Effective Floodplains April 2020

Floodplains

Town of Loomis General Plan and EIR



2

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1 carry runoff. Various culverts and storm drains throughout the Planning Area are
2 also subject to potential flooding in the event that they become clogged with debris
3 during heavy rains.

4 Flooding has previously affected several homes in the Planning Area in 1986, 1995,
5 and 2005, along Sucker River, Secret Ravine, and Antelope Creek. These homes are
6 located within the FEMA 100-year floodplain and were built prior to 1997, when
7 Loomis became a participant in the NFIP and adopted the required floodplain
8 management regulations.

9 The Town of Loomis Master Plan EIR identifies drainage problems associated with
10 the culvert under the southbound freeway ramp of I-80 into a poorly maintained
11 swale near South Walnut Street. Other similar deficiencies are likely elsewhere, as
12 discussed in more detail in the Dry Creek Watershed Flood Control Plan.

13 ***Dam Inundation***

14 Loomis is not in the dam inundation area for any major stream or river in the
15 region. There are no dams or reservoirs (except small local detention facilities)
16 upstream of Loomis on any tributary of Antelope Creek or Secret Ravine. Loomis is
17 not subject to potential damage from dam inundation.

18 **Climate Change – Flooding and Wildland Fires**

19 An emerging issue related to planning for public health and safety is accounting for
20 the potential effects of climate change in the given geographical scope. Climate
21 change is a shift in normal weather conditions over time. A growing body of
22 scientific research has linked climate change to an increase in the concentration of
23 greenhouse gas (GHG) emissions in the Earth’s atmosphere. Some GHGs occur
24 naturally and are responsible for the “greenhouse effect” that provides a habitable
25 climate on Earth. However, a significant amount of GHGs are created through
26 human activities and are resulting in atmospheric levels of GHGs in excess of natural
27 conditions. In the United States, approximately 80 percent of all GHG emissions
28 come from the use of petroleum and natural gas (Sacramento Area Council of
29 Governments [SACOG] 2015). The Greenhouse Gas Emissions subsection provided

1 in Chapter 3, “Natural Resources,” of this Background Report provides the most
2 recent state and local emissions inventories identifying the principal sources of GHG
3 emissions generated by human activities by sector, or type of activity, as well as the
4 relevant regulatory framework addressing GHG emissions reduction efforts.

5 Scientists use a variety of different numerical models (called Global Climate Models)
6 to simulate the Earth’s physical processes. These models use mathematical
7 equations to predict how the atmosphere, oceans, ice, land surface, and natural and
8 human-caused emissions of GHGs will interact globally in the climate system over
9 the next centuries.

10 The California Energy Commission and the University of California, Berkeley (2021)
11 developed a climate change modeling tool called Cal-Adapt, as part of
12 recommendations of the 2009 California Climate Adaptation Strategy. Cal-Adapt
13 produces peer-reviewed, scientific climate projections for the entire state of
14 California. The data is available to the public at <https://cal-adapt.org/>, and is
15 continuously updated as the science of climate change evolves.

16 California Government Code Section 65302(g)(4) requires cities and counties to
17 address the potential effects from climate change as part of the public safety
18 element of their respective general plans. The Town of Loomis is situated in the
19 urbanized western Placer County region. The Vulnerability Assessment Report
20 prepared for Placer County in 2018 identifies the natural hazards in Placer County
21 that could be affected by climate change based on modeling from Cal-Adapt.

22 Table 7-2 presents a summary of the types of climate change hazards that may
23 occur in the Town of Loomis, and the resulting potential impacts to people and the
24 natural environment.¹

25 In 2020, Placer County adopted the *Placer County Sustainability Plan*, which outlines
26 various programs and policies to be undertaken by the community and the County
27 to achieve GHG emission reductions. The Sustainability Plan includes a summary of
28 the results of the *Vulnerability Assessment Report* (Placeworks 2018). While the Placer
29 County Sustainability Plan does not specifically address the Town of Loomis, the

¹ Table 7-3 does not include climate change hazards from severe winter weather or avalanches, which would not represent hazards for the Town of Loomis due to its low elevation.

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- 1 plan includes climate adaptation strategies to protect against hazards in the region,
- 2 several of which are applicable to the Town of Loomis. Many of the regional hazards
- 3 and anticipated effects of climate change encompass those that are expected to
- 4 affect the Town of Loomis, and many of the identified climate adaptation and
- 5 resiliency actions could apply to Loomis.

Table 7-2. Projected Effects of Climate Change Pertaining to the Town of Loomis

Hazard	Climate Change Influence	Result
Drought	Climate change is projected to result in statewide droughts that are more frequent and more intense. California's climate varies between extremely dry and extremely wet periods, driven by the presence or absence of a few large winter storms or "atmospheric rivers." There will likely be more years with extreme levels of precipitation, both high and low; more years with very low levels of precipitation would cause more droughts that last longer and are more intense, as compared to historical norms. Drought conditions will likely be made worse by changes to Placer County's snowpack. Snowpack refers to the total amount of snow and ice that accumulates on the ground. Usually, this snow melts slowly over the year, helping to provide a consistent supply of water during dry months. However, because of climate change, less precipitation is expected to fall as snow and instead will fall as rain due to warmer temperatures, leading to a reduced snowpack. This may make water levels particularly low in late summer and early autumn, which are also often the hottest parts of the year.	Drought results in less water available for human consumption, industrial processes, and agricultural irrigation. It also decreases the amount of water available to plants and animals, threatens endangered species and ecosystems, and increases wildfire hazards.

Table 7-2. Projected Effects of Climate Change Pertaining to the Town of Loomis

Hazard	Climate Change Influence	Result
Extreme Heat ¹	Climate change is expected to cause warmer temperatures overall, as well as an increase in extreme heat events. Depending on the location of interest within Placer County, as well as level of global GHG emissions, the number of extreme heat days is expected to rise from a historical annual average of 4 days, to 22–32 days by the middle of the century, and to 33–62 days by the end of the century. An increase in the average daily high temperatures is also anticipated. These projected high temperatures are substantially greater than historical norms.	Extreme heat has a direct adverse effect on humans, plants, and animals, including heat-related illness and increased vulnerability to cardiovascular and respiratory disorders in humans; contributes to the spread of wildfires; increases the need for water consumption throughout the human, plant, and animal ecosystems; and results in greater energy loads for air conditioning systems.

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Table 7-2. Projected Effects of Climate Change Pertaining to the Town of Loomis		
Hazard	Climate Change Influence	Result
Wildfire	Wildfires in Placer County occur most often in late summer and autumn, when temperatures are high and several months have passed without significant precipitation, creating large amounts of dry plants that can act as fuel. Warmer temperatures and an increase in drought conditions created by climate change are likely to create more fuel for fires in the state's wildlands. The timing of wildfire events is also expanding throughout more of the year. The biggest increase in wildfires in Placer County is projected to occur along the western slope of the Sierra Nevada and areas closer to Lake Tahoe. Another wildfire hazard is the presence of small rural roadways with low carrying capacity, which can reduce wildfire evacuation and impede firefighting access. The Town of Loomis is composed primarily of grasslands and oak woodlands, which are relatively less prone to wildfires because of the lower fuel loads.	Wildfires result in the destruction of plant and animal ecosystems, as well as direct animal mortality, and can cause property damage and loss of life.

Table 7-2. Projected Effects of Climate Change Pertaining to the Town of Loomis		
Hazard	Climate Change Influence	Result
Flooding	Climate change is projected to cause more years with particularly intense storm systems that result in high rainfall amounts over a short period, and could overtop the capacity of local streams and drainage systems. Flooding may also occur more frequently when: (1) increased drought causes the soil to dry out and become hard, making it more difficult for rainfall to penetrate the soil; (2) the heat from increased wildfires bakes the surface layers of the soil resulting in decreased rainfall penetration; and (3) loss of vegetation (from wildfires and pests) results in fewer tree roots and less leaf litter, which in turn increases stormwater runoff.	Flooding on roadways and bridges impedes evacuation, flooding at residences and businesses results in loss of human life and property damage, and flooding on agricultural land results in crop damage or loss.
Fog	There has been a 50 percent reduction in days with fog in the Central Valley since the 1980s. Increasing temperatures caused by climate change likely makes it harder for the air to become cool enough to create fog. In addition, since particles of pollutants in the air help water vapor to condense, a reduction in air pollution may also be causing or contributing to the decreased days with fog.	Loss of fog events can benefit humans by reducing traffic accidents on roadways; however, it may harm plants that depend on the cool, moist environment.

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Table 7-2. Projected Effects of Climate Change Pertaining to the Town of Loomis

Hazard	Climate Change Influence	Result
Human Health Hazards	Diseases such as hantavirus pulmonary syndrome, Lyme disease, and West Nile fever are carried by animals such as mice and rats or insects such as ticks and mosquitos. Climate change is projected to cause warmer temperatures in both winter and spring. Since many of the organisms that carry diseases are more active during warmer weather, the time during which these diseases can be transmitted may increase.	Increased favorability for disease transmission could result in an increased number of people affected by diseases. Note that Placer Mosquito and Vector Control District, an independent special-district governed by California Mosquito and Vector Control Law and a seven-member Board of Trustees, including a representative of the Town of Loomis, provides year-round services and information to the residents of Placer County to reduce vector populations, including but not limited to mosquitos, ticks, yellow jackets and rats, promote awareness of vectors and vector-borne diseases, and decrease associated health risks to residents in Placer County.

Table 7-2. Projected Effects of Climate Change Pertaining to the Town of Loomis		
Hazard	Climate Change Influence	Result
Pests and Diseases in Agriculture and Forestry	Because climate change is expected to result in an increase in average temperatures, the threat of agriculture and forestry infestation from pests and diseases can be higher, because many pests and organisms that carry diseases are most active during warmer months. For example, the bark beetle is one of the worst pests threatening California forests, and has contributed to the death of 1.5 million trees in Placer County's forests alone. The dead trees deplete forest ecosystems, create more fuel for wildfires, and are a safety risk for people and property. Climate change is likely to worsen bark beetle infestations because the warmer temperatures and shorter periods of cold weather create a longer period for bark beetles to cause tree damage and to reproduce. Drought and extreme heat also stress and weaken trees, making them more susceptible to bark beetle infestation.	Increased pests and diseases in agriculture and forestry could reduce forest tree cover and lower crop productivity.
Landslides ²	Climate change is expected to cause an increase in intense levels of precipitation, and heavy rainfall or snowfall could increase the number of landslides or make landslides larger than normal, as well as increase the potential for erosion. Vegetation, which helps to hold hillsides together, can be stripped away by climate exposures such as increased wildfires, droughts, or disease/pest infestations. Without vegetation to help stabilize the slope, hillsides may be more likely to slide and erosion may be more likely to occur.	An increase in landslides could result in increased temporary losses of roadway access, and increased loss of property damage and human life. Increased erosion could result in increased degradation of water quality.

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Table 7-2. Projected Effects of Climate Change Pertaining to the Town of Loomis		
Hazard	Climate Change Influence	Result
Severe Weather	Climate change is expected to cause an increase in intense rainfall, which is usually associated with strong storm systems. This means that Loomis could see more intense storms in the coming years and decades, which could also include more high wind events. Future wet seasons will have more precipitation as rain than snow, primarily due to higher temperatures. Higher extreme rainfall will result in more surface runoff and less groundwater recharge.	Increased short-term precipitation could result in increased flooding and increased high-wind events could result in increased wildfires (from downed power lines) and property damage (from falling tree limbs).

Sources: California Energy Commission et al. 2018, Placeworks 2018, Placer County 2020, SACOG 2015 and 2020

Notes:

¹ Defined as temperatures that are hotter than 98 percent of the historical high temperatures for the area, as measured between April and October of 1961 to 1990.

² Landslide hazards are limited in the Town of Loomis. Most portions of the Town are relatively level or gently sloping. In areas with steeper slopes, the underlying geology generally consists of stable bedrock.

1

2 Hazardous Materials

3 Hazardous materials are defined as those that are a potential threat to human
 4 health, having the capacity to cause serious illness or death. This section discusses
 5 the types of hazardous materials typically found in the Planning Area.

6 ***Recorded Hazardous Material Sites***

7 A search of the State Water Resources Control Board’s GeoTracker database (SWRCB
 8 2020) and the California Department of Toxic Substances Control’s EnviroStor
 9 database (DTSC 2020) found no open, active records of known hazardous material
 10 sites within the Planning Area. The GeoTracker database listed one open case
 11 related to a potential hazards material leak from 2009, but it is inactive (meaning
 12 that no regulatory oversight activities are being conducted), and no details are
 13 available. The EnviroStor database listed one open, inactive case related to

1 hazardous materials cleanup from agricultural chemicals related to a former
2 orchard, for a proposed residential development; remedial action work is pending.
3 One other open EnviroStor database record dates back to 2007, with no details
4 available and no pending actions. Eleven hazardous materials sites have been
5 remediated. No Federal (Superfund) sites are located within or adjacent to the
6 Planning Area (U.S. Environmental Protection Agency 2020). The database search
7 included Federal Superfund sites, State response sites, voluntary cleanup sites,
8 school cleanups, evaluation sites, military evaluations, tiered permit sites, and
9 corrective action sites.

10 ***Household Products***

11 By far the most common hazardous materials are those found or used in the home.
12 Waste oil is a common hazardous material that is often improperly disposed of and
13 can contaminate surface water through runoff. Other household hazardous wastes
14 (used paint, pesticides, cleaning products and other chemicals) are common and
15 often improperly stored in garages and homes. Because of their prevalence and
16 proximity to residents, household products constitute the most pervasive health
17 hazard facing residents.

18 ***Mine Tailings***

19 Historic mining operations often left dredge tailings, or discarded rock and material,
20 either near the mine site in the case of dredge or hardrock mining, or washed
21 downstream as a result of upstream hydraulic mining. Dredge mining was common
22 in the 19th century along the creeks in the Loomis area, and dredge tailings can still
23 be found. Historic hydraulic operations have scarred hillsides in Loomis, leaving
24 them susceptible to erosion.

25 Mine tailings can be contaminated with mercury or cyanide, both of which are used
26 in the process of gold refining. However, most gold was not refined in the
27 immediate Loomis area and the potential for such contamination in dredge
28 materials is considered low.

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1 ***Agricultural Pesticide Use***

2 The Loomis area includes many agricultural operations. Orchards in particular are
3 often sprayed with various pesticides, which can persist in the soils over a period of
4 many years. Denuded vegetation can suggest evidence for soil contamination.
5 Potential contaminants can include dichlorodiphenyltrichloroethane (DDT), lead, and
6 arsenic. In such areas, it is prudent to conduct soil testing (and conducting soil
7 clean-up steps, if necessary) before allowing more intensive development.

8 ***Asbestos***

9 Asbestos is the name given to a number of naturally occurring, fibrous silicate
10 minerals. Asbestos is commonly used as an acoustic insulator, thermal insulation,
11 fireproofing, and in other building materials. Asbestos is made up of microscopic
12 bundles of fibers that may become airborne when asbestos-containing materials
13 are damaged or disturbed. When these fibers get into the air, they may be inhaled
14 into the lungs, where they can cause significant health problems.

15 The Planning Area contains many older structures with the potential to contain
16 asbestos. Pre-1979 construction often included asbestos and it should be assumed
17 that the demolition of older structures in the Town may present this hazard. Proper
18 asbestos abatement and disposal procedures should be undertaken whenever the
19 demolition of older structures is considered. As described earlier, no areas that are
20 likely to contain naturally occurring asbestos have been identified in the Planning
21 Area (Higgins and Clinkenbeard 2006).

22 ***Lead***

23 Lead is a highly toxic metal that was used until the late 1970s in a number of
24 products, most notably paint. Lead may cause a range of health effects, from
25 behavioral problems and learning disabilities to seizures and death. Primary sources
26 of lead exposure are deteriorating lead-based paint, lead-contaminated dust, and
27 aerially-deposited lead from vehicle emissions in soil within 30 feet of major
28 (i.e., state and federal) highways. Lead is also present in the yellow paint that was
29 used in striping roadways.

1 In addition to roadways and bridges, demolition of residential, commercial, and
2 industrial structures in the Planning Area containing lead-based paint require
3 specific remediation activities regulated by federal, State, and regional and local
4 laws. The debris produced during the removal of yellow pavement markings may
5 need to be disposed of as a state or federal hazardous waste if the concentrations
6 of lead exceed applicable hazardous waste thresholds.

7 ***Hazardous Materials Transport***

8 The Union Pacific Railroad and I-80 are major transcontinental transportation routes
9 that traverse Loomis. Trains and trucks commonly carry a variety of hazardous
10 materials, including gasoline and various crude oil derivatives, and other chemicals
11 known to cause human health problems. When properly contained, these materials
12 present no hazard to the community. But in the event of an accident or derailment,
13 such materials may be released, either in liquid or gas form. In the case of some
14 chemicals (such as chlorine), highly toxic fumes may be carried far from the accident
15 site. Standard accident prevention and hazardous materials recovery procedures are
16 enforced by Federal and State agencies and followed by private transportation
17 companies, and are included in the State Health and Safety Codes.

18 ***Hazardous Waste Management Plan***

19 Counties are required by state law to prepare hazardous waste management plans.
20 Placer County's plan addresses the treatment, storage and disposal of such
21 materials. The primary goal of the plan is to protect public health by promoting the
22 safe use and disposal of hazardous waste. To accomplish this, the plan provides for
23 the reduction of hazardous waste through source reduction, recycling, and on-site
24 handling and treatment methods. Public education and community involvement are
25 key features for achieving this goal.

26 **Critical Facilities**

27 Critical facilities are those that must remain operational after an emergency event,
28 in order for the community to respond effectively. Examples of critical facilities
29 include hospitals, fire stations, electrical power plants, and community facilities.

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1 Schools are often important staging and evacuation areas. There are relatively few
2 critical facilities in the Planning Area; the nearest hospitals, for example, are in
3 Roseville and Auburn.

4 There are no critical facilities located in flood hazard zones. There is one critical
5 facility, the Placer County Sherriff's Office of Loomis, along the urban fringe in a
6 moderate fire hazard severity zone. Figure 7-7 shows the location of critical facilities
7 in the Planning Area in relation to identified flood and wildfire hazard zones. The
8 critical facilities identified in Figure 7-7 include the Placer County Sherriff's Office of
9 Loomis, South Placer Fire Protection District Station 18, and three schools.

10 Fuel pipelines can also be considered critical infrastructure. Pacific Gas & Electric
11 Company (PG&E) provides natural gas service to the Loomis area. The system
12 receives gas from PG&E's regional transmission system, with a local transmission
13 pipeline that runs along Taylor Road through the Town of Loomis. In addition, Kinder
14 Morgan operates a petroleum pipeline that parallels the railroad alignment through
15 the Town of Loomis.

16 **Airports and Airstrips**

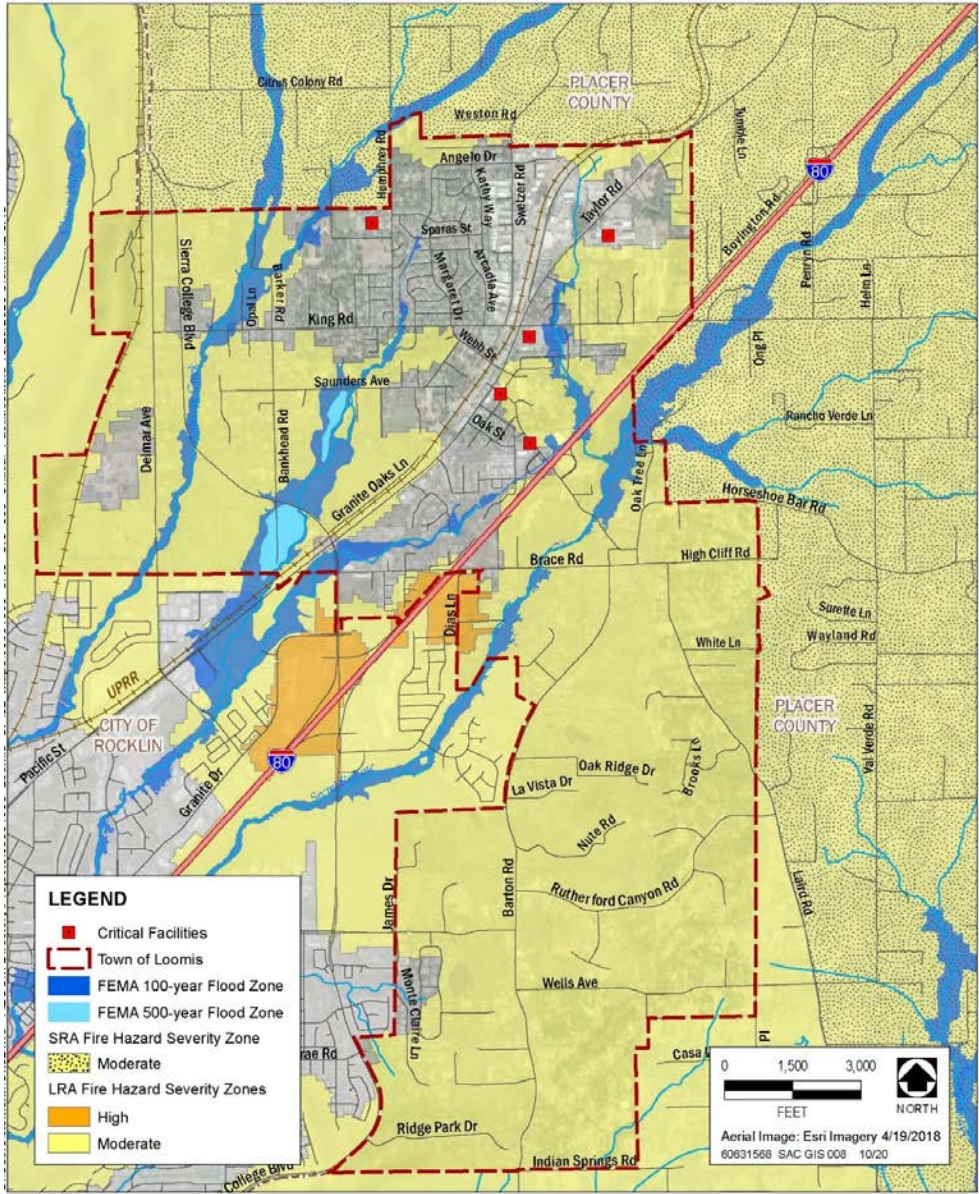
17 There are no public airports or private airstrips in or near the Planning Area. The
18 Holsclaw short takeoff and landing short take-off and landing (STOL) airstrip,
19 formerly located in Loomis immediately south of I-80 on Holsclaw Road, no longer
20 exists.

21 **Military Facilities**

22 There are no military facilities in or near the Planning Area.

23

1 **Figure 7-7: Critical Facilities in the Planning Area**



Sources: FEMA Effective Floodplains April 2020, Town of Loomis and Placer County 2016, CAL FIRE 2020

Critical Facilities

Town of Loomis General Plan and EIR



2

1 **NOISE SOURCES & STANDARDS**

2 The State Office of Planning and Research Noise Element Guidelines require
3 that major noise sources be identified and quantified through the
4 preparation of generalized noise contours for current and projected
5 conditions. Significant noise sources in the Loomis area include traffic and
6 railroad operations. Industrial operations are an additional, but less intrusive,
7 noise source in Loomis. There are no airports in the area that could be a
8 source of noise.

9 **Overview of Noise & Sound Measurement**

10 Noise is usually defined as "unwanted sound." It consists of any sound that
11 may produce physiological or psychological damage and/or interfere with
12 communication, work, rest, recreation, and sleep.

13 Sound intensity is measured in units called decibels (dB). When this basic unit
14 is adjusted to correct for the relative frequency response of the human ear,
15 the resulting unit is the "A-weighted" decibel (dBA). A-weighting de-emphasizes
16 low frequencies to better correlate with the response of the human ear to
17 sound. The zero on the dBA scale is based on the lowest sound level that the
18 healthy, unimpaired human ear can detect. Unlike linear units (inches or
19 pounds), the decibel scale is logarithmic. When measured on this scale,
20 therefore, sound intensity increases or decreases exponentially with each
21 decibel of change. While 10 decibels is 10 times more intense than one
22 decibel, 20 decibels is 100 times more intense and 30 decibels is a thousand
23 times more intense. The decibel scale increases as the square of the change in
24 sound pressure energy. A sound as soft as human breathing is about 10 times
25 greater (10 dBA) than the faintest sound audible to the human ear (just above
26 zero dBA). The decibel system of measuring sound provides us with a
27 simplified relationship between the physical intensity of sound and its
28 perceived loudness to the human ear.

29 Because of the physical characteristics associated with sound transmission
30 and reception, a doubling of noise energy normally results in about a 3 dBA

1 increase in noise levels while a 10-dBA increase in noise level is generally
 2 required to perceive a doubling of noise. A 1- to 2-dBA change in ambient
 3 noise levels generally is not audible even to sensitive receptors.

4 Sound levels corresponding to typical noise sources are provided in Table 7-3.
 5 For a single point source, sound level decays approximately six decibels for
 6 each doubling of distance from the source. Noise originating from a linear, or
 7 "line" source, such as a traffic or rail corridor, will typically decrease by about
 8 three decibels for each doubling of distance, provided the surrounding
 9 environment is "hard" (free from "soft," sound-absorbing objects such as
 10 vegetation). Noise from a line source in an environment that is relatively flat
 11 and well-vegetated will decrease by about 4.5 decibels for each doubling of
 12 distance.

Table 7-3. Typical Noise Levels		
Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
n/a	--110--	Rock Band
Jet Fly-over at 300 m (1,000 ft)	--100--	n/a
Gas Lawn Mower at 1 m (3 ft)	--90--	n/a
Diesel Truck at 15 m (50 ft), at 80km/hr (50 mph)	--80--	Food Blender at 1 m (3 ft) Garbage Disposal at 1 m (3 ft)
Noisy Urban Area, Daytime Gas Lawn Mower, 30 m (100 ft)	--70--	Vacuum Cleaner at 3 m (10 ft)
Commercial Area Heavy Traffic at 90 m (300 ft)	--60--	Normal Speech at 1m (3 ft)
Quiet Urban Daytime	--50--	Large Business Office Dishwasher in Next Room
Quiet Urban Nighttime	--40--	Theater, Large Conference Room (Background)
Quiet Suburban Nighttime	--30--	Library

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Table 7-3. Typical Noise Levels		
Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
Quiet Rural Nighttime	--20--	Bedroom at Night, Concert Hall (Background)
n/a	--10--	Broadcast/Recording Studio
Lowest Threshold of Human Hearing	--0--	Lowest Threshold of Human Hearing

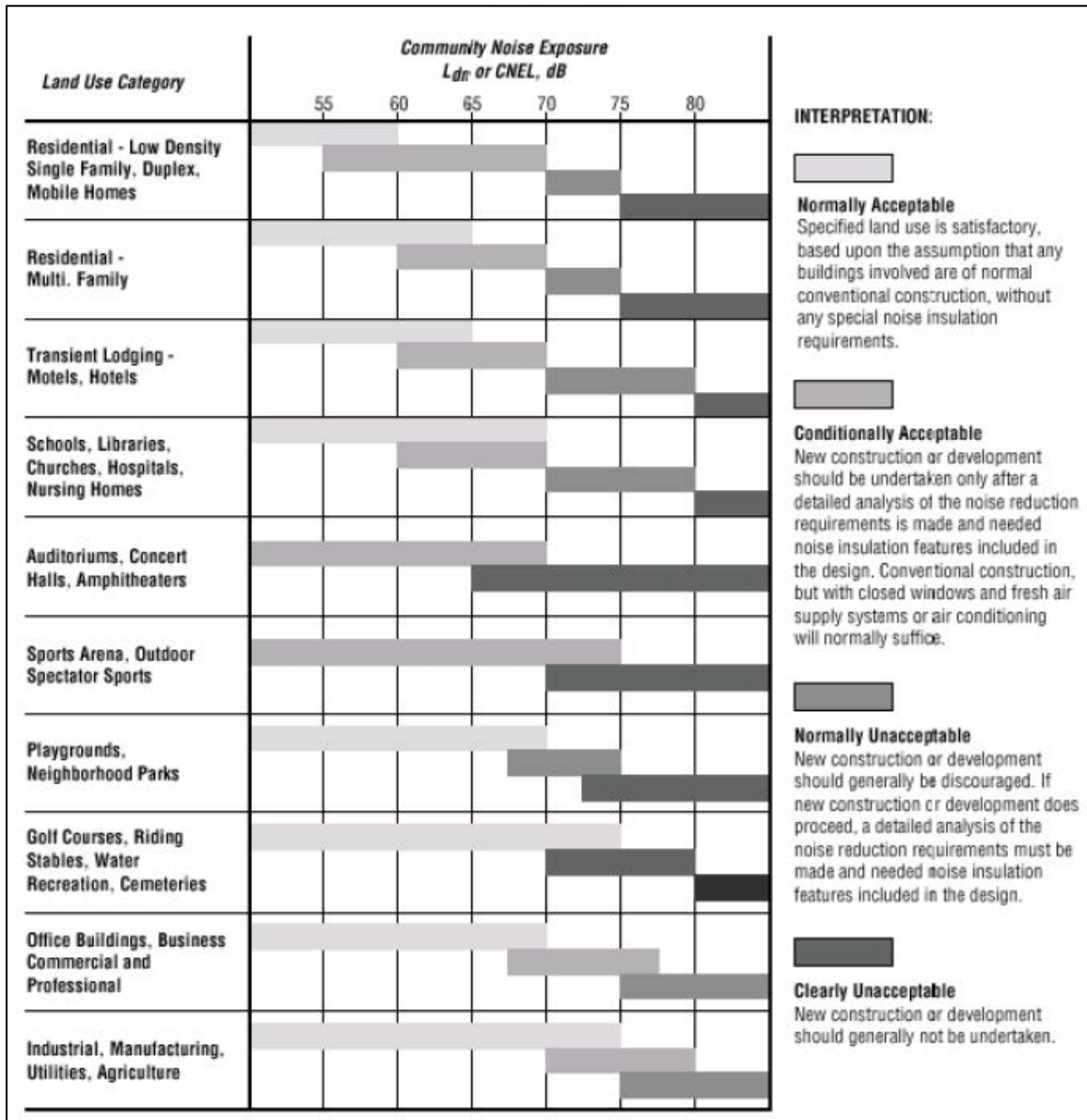
Source: Caltrans, Technical Noise Supplement, Traffic Noise Analysis Protocol, September 2013

1
 2 The time of day when a sound is emitted is an important factor in determining
 3 whether or not it is considered a nuisance. Sounds that may be barely noticeable at
 4 midday may be seriously disruptive at midnight. A number of measurement scales
 5 that attempt to account for this time factor have been developed. Two of the more
 6 commonly used scales of this type are the Community Noise Equivalent Level (CNEL)
 7 and the day-night sound level (L_{dn}). The L_{dn} , which was developed by the
 8 Environmental Protection Agency, is a 24-hour average sound level in which a 10 dBA
 9 penalty is added to any sounds occurring between the hours of 10:00 pm and 7:00
 10 a.m. The CNEL scale, which is used in California Airport Noise Regulations, is similar
 11 except that an additional 5-dBA penalty is added for the evening hours from 7:00 p.m.
 12 to 10:00 p.m.

13 **Noise Compatibility Standards**

14 California Government Code §65302(f) provides noise compatibility guidelines
 15 for various land uses, as shown by Figure 7-8. The compatibility table illustrates
 16 the range of community noise exposure in terms of what is considered
 17 “normally acceptable,” “conditionally acceptable,” “normally unacceptable,” and
 18 “clearly unacceptable.” For the most sensitive uses, such as single-family
 19 residences, 60 dBA L_{dn} is recommended as the maximum normally acceptable
 20 level, which is the level below which no special sound attenuation measures
 21 are required. These guidelines are recommended by the State to assist
 22

1 **Figure 7-8: Noise Land Use Compatibility Standards**



2
3 communities in determining whether or not noise poses a conflict with land
4 development. The following summarizes other pertinent federal and state
5 noise guidelines:

SAFETY & NOISE

1 communities in determining whether or not noise poses a conflict with land
2 development. The following summarizes other pertinent federal and state noise
3 guidelines:

4 ***Noise Insulation Standards***

5 The State Building Code, Title 24, Part 2 of the State of California Code of
6 Regulations, establishes uniform minimum noise insulation performance standards
7 to protect persons within new buildings which house people, including hotels,
8 motels, dormitories, apartment houses, and dwellings other than single-family
9 dwellings. Title 24 mandates that interior noise levels attributable to exterior
10 sources shall not exceed 45 dB L_{dn} or CNEL in any habitable room. Title 24 also
11 mandates that for structures containing noise-sensitive uses to be located where
12 the L_{dn} or CNEL exceeds 60 dB, an acoustical analysis must be prepared to identify
13 mechanisms for limiting exterior noise to the prescribed allowable interior levels. If
14 the interior allowable noise levels are met by requiring that windows be kept closed,
15 the design for the structure must also specify a ventilation or air conditioning
16 system to provide a habitable interior environment.

17 The Federal Housing Administration establishes a 65 dBA L_{dn} standard for outdoor
18 activity areas adjoining residential dwellings, and a 45 dBA L_{dn} standard for the
19 interior of single-family residences. If exterior levels are between the 65 dBA L_{dn}
20 standard and 75 dBA L_{dn} , acoustical analysis is required to ensure that the interior
21 standard is met. Residential development is unacceptable where exterior noise levels
22 exceed 75 dBA L_{dn} .

23 ***Local Standards***

24 Loomis' current noise element sets an exterior standard of 65 dBA L_{dn} and an
25 interior standard of 45 dBA L_{dn} . This is less stringent than those provided in the State
26 Guidelines. However, the Town's current guidelines are consistent with the FHA
27 standards described above.

1 **Existing Noise Sources & Sound Levels**

2 Noise modeling techniques and measurements were used to develop generalized
3 L_{dn} or L_{eq} noise contours in the Planning Area for existing conditions. This method
4 uses source-specific data including traffic mixture, speed limits and traffic volumes,
5 all of which were obtained from either Caltrans, or Wood Rodgers. Noise contours
6 along roadways were modeled using the Federal Highway Administration's Highway
7 Traffic Noise Prediction Model (FHWA-RD-77-108, 1978), with California vehicle noise
8 emission levels (CALVENO) developed by Caltrans.

9 The resulting noise contours (Figure 7-9) are based on average annual conditions.
10 Local topography and intervening structures at specific locations would alter the
11 contours, which should be considered generalizations. Table 7-4 shows the model
12 results for the distance to the 60, 65 and 70 dBA L_{dn} contours associated with traffic
13 on major roads traversing the Town.

14 **Roadways**

15 Roadway traffic is a primary source of noise in the Loomis community. Interstate 80
16 carries by far the most traffic through the area and is consequently the major noise
17 contributor. The 60 dBA L_{dn} contour from this roadway extends up to 1,859 feet from
18 centerline. However, this distance may be much less than modeled, because of
19 topographic attenuation and intervening buildings. Please refer to Figure 7-2 and
20 Table 7-4 for more detailed information.

21

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Table 7-4. Existing Traffic Noise Levels					
Roadway	Segment	Traffic (ADT)	Distance to L _{dn} Contour from Centerline (feet)		
			70 dB	65 dB	60 dB
Bankhead Road	King Rd to Saunders Ave	409	2	4	8
Bankhead Road	Saunders Ave to Sierra College Blvd	673	2	5	11
Barton Rd	Brace Rd to Gold Trail Way	1,935	9	19	41
Barton Rd	Gold Trail Way to Rocklin Rd	2,500	10	23	49
Barton Rd	Rocklin Rd to Indian Springs Rd	7,952	23	49	105
Brace Rd	Sierra College Blvd to I-80 Bridge	4,521	13	27	59
Brace Rd	I-80 Bridge to Laird Rd	3,555	13	29	61
Del Mar Ave	King Rd to N. Town Limit	212	2	4	8
Del Mar Ave	S. Town Limit to King Rd	719	4	8	17
Horseshoe Bar Rd	Taylor Rd to I-80 Bridge	16,536	20	43	93
Horseshoe Bar Rd	I-80 Bridge to Horseshoe Bar Rd	9,578	14	30	64
Horseshoe Bar Rd	Brace Rd to N. Town Limit	6,427	20	42	91
Humphrey Rd	Arcadia Ave to N. Town Limit	1,232	5	10	21
Humphrey Rd	King Rd to Arcadia Ave	2,721	6	13	28
King Rd	Del Mar Ave to Bankhead Rd	2,988	12	25	55
King Rd	Bankhead Rd to Humphrey Rd	3,188	10	22	46
King Rd	Humphrey Rd to Taylor Rd	5,521	14	31	67
King Rd	Taylor Rd to Bush Ln	5,629	15	31	68
King Rd	Bush Ln to I-80 Bridge	5,684	18	39	84

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Table 7-4. Existing Traffic Noise Levels					
Roadway	Segment	Traffic (ADT)	Distance to L _{dn} Contour from Centerline (feet)		
			70 dB	65 dB	60 dB
Laird Rd	Brace Rd to White Ln	4,673	13	28	60
Laird Rd	White Ln to S. Town Limit	4,412	12	27	58
Rippey Rd	Taylor Rd to N. Town Limit	802	4	9	18
Rocklin Rd	James Dr to Barton Rd	13,479	32	69	149
Saunders Ave	Bankhead Rd to McAllen Ln	378	2	3	7
Saunders Ave	McAllen Ln to Webb St	919	3	6	13
Sierra College Blvd	N. Town Limit to King Rd	12,179	43	93	201
Sierra College Blvd	King Rd to Bankhead Rd	11,372	41	89	192
Sierra College Blvd	Bankhead Rd to Brace Rd	13,019	38	82	176
Sierra College Blvd	Brace Rd to N. Granite Dr	22,010	45	96	207
Swetzer Rd	King Rd to N. Town Limit	6,261	16	34	73
Taylor Rd	S. Town Limit to Sierra College Blvd	11,463	29	62	134
Taylor Rd	Sierra College Blvd to Circle Dr	11,045	28	61	131
Taylor Rd	Circle Dr to Horseshoe Bar Rd	10,775	15	32	70
Taylor Rd	Horseshoe Bar Rd to King Rd	18,753	22	47	101
Taylor Rd	King Rd to N. Town Limit	8,881	13	28	61
Webb St	King Rd to Taylor Rd	4,121	8	17	37
Wells Ave	Barton Rd to Ricketty Rack Rd	3,497	13	28	61

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Roadway	Segment	Traffic (ADT)	Distance to L _{dn} Contour from Centerline (feet)		
			70 dB	65 dB	60 dB
Wells Ave	Rickety Rack Rd to Morgan Place	3,372	13	28	59
I-80	Sierra College	85,500	401	863	1,859

Source: Traffic volumes from Caltrans and Wood Rodgers (2020).

ADT = average daily traffic

db = decibel

ldn = Day-Night Average Sound Level

Note: * All noise levels reported at 50 feet from roadway centerlines, except for Interstate 80 (100 feet).

1 ***Union Pacific Railroad***

2 The Union Pacific Railroad operates two rail lines through the Town. The westbound
3 rail line parallels Taylor Road, and cuts through the center of the community. The
4 eastbound line travels northward, along the western edge of the Planning Area,
5 about 1.5 miles west of Downtown Loomis.

6 Noise measurements were conducted on both lines to determine the contribution
7 of freight and passenger rail operations to the noise environment. The goal of the
8 noise measurements was to determine the typical sound exposure levels (SEL),
9 accounting for travel speed, warning horns, locomotive noise, and other factors
10 contributing to noise generation. The average SEL for the westbound line as
11 collected at Site LT-1 was 110 dBA at 50 feet from the track centerline (includes use
12 of warning horns). The average SEL for the eastbound line was 98 dBA at 50 feet (no
13 warning horn usage). Saxelby Acoustics observed approximately 10 daily eastbound
14 trains and 7 westbound trains during the noise measurement survey.

15 Union Pacific officials will not release the precise number of daily trains that travel
16 through Loomis but estimated that about 12 to 15 trains is typical. This number is
17 consistent with a 1996 Surface Transportation Board ruling that limits the number of
18 trains passing through Reno, Nevada, to 15 as a condition of the recent Union
19 Pacific/Southern Pacific merger (Mike Furtney, Union Pacific, 1998). For the purpose

1 of this analysis, an average of 15 trains is assumed, evenly distributed between east
2 and westbound freight.

3 Amtrak operates two eastbound and two westbound passenger trains daily that
4 pass through Loomis. All four passenger trains pass through the Town during the
5 day or early evening. However, the noise levels generated by passenger trains do
6 not substantially contribute to overall day/night noise levels when compared to
7 freight activity.

8 To determine the distance to noise contours, it is necessary to calculate the L_{dn} for
9 typical rail operations. This is accomplished by using the recorded SEL values and
10 the known number of trains. The L_{dn} may be calculated as follows:

11
$$L_{dn} = SEL + 10\log N - 49.4 \text{ dB, where:}$$

12 SEL is the mean SEL of the event, N is the sum of the number of day and evening
13 trains per day plus 10 times the number of nighttime (10 pm to 7 am) trains per day,
14 and 49.4 is a constant which represents ten times the logarithm of the number of
15 seconds per day. Based on this information, the calculated noise contour distances
16 from each rail line are shown in Table 7-5. These contours are depicted graphically in
17 Figure 7-9.

Table 7-5. Approximate Distance to Railroad Noise Contours				
Train Source	L_{dn} , at 100 feet	Distance to L_{dn} contour (feet)		
		70	65	60
Union Pacific (freight) -with warning horns	71.2 dBA	120	259	558
Union Pacific (freight) - without warning horns	61.9 dBA	29	62	134

Source: Saxelby Acoustics, 2020.

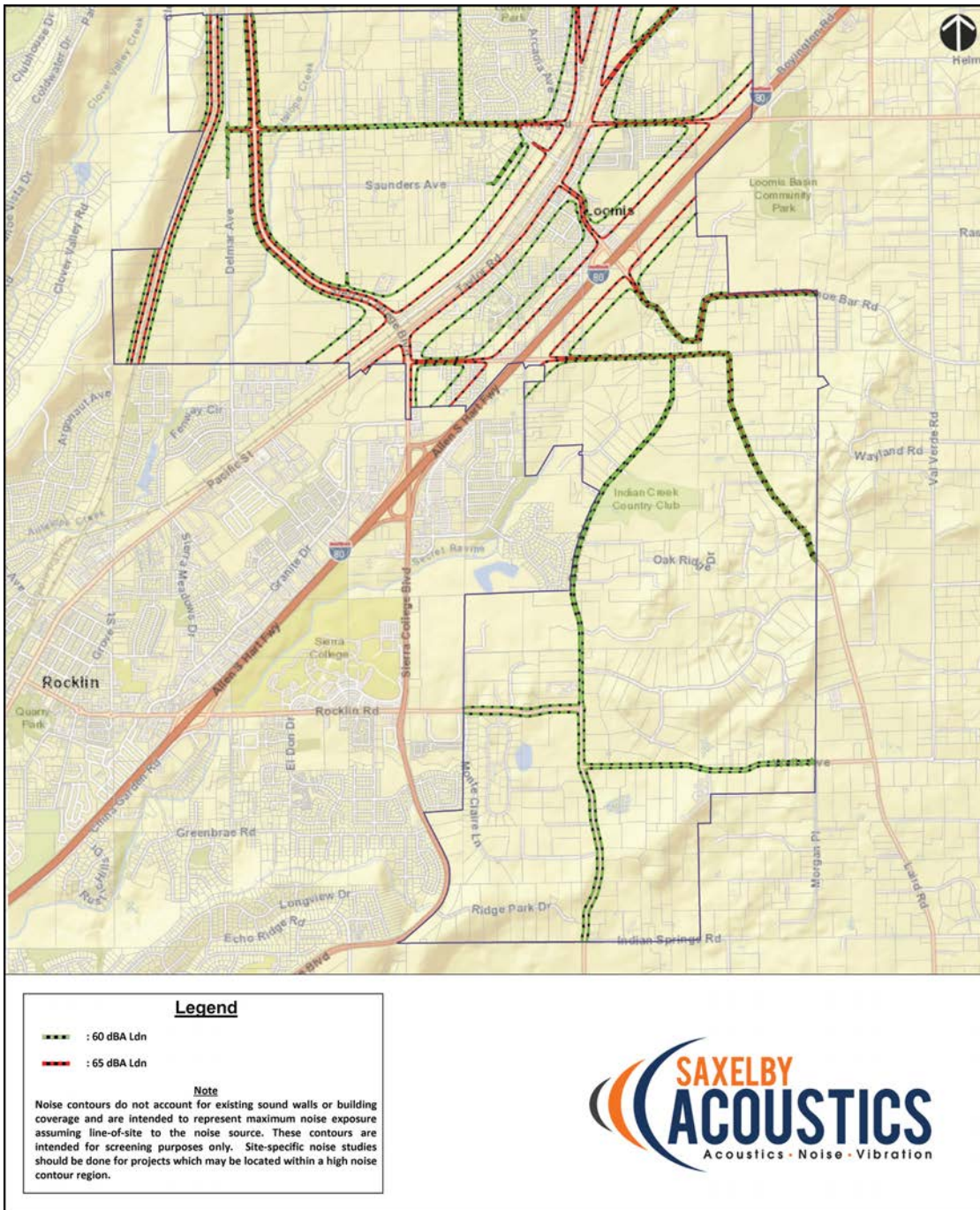
Assumes 7.5 freight trains daily, evenly distributed between daytime and nighttime hours.

L_{dn} = day/night average sound level with a penalty for noise occurring during nighttime hours.

18

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1 **Figure 7-9: Existing Noise Contours**



2

1 **Community Noise Survey**

2 A community noise survey was conducted to document ambient noise levels at
 3 various locations throughout the Town. Short-term noise measurements were
 4 conducted at six locations throughout Loomis on July 13-16, 2020. In addition, four
 5 continuous 24-hour noise monitoring sites were also conducted to record day-night
 6 statistical noise level trends. The data collected included the hourly average (L_{eq}),
 7 median (L_{50}), and the maximum sound level (L_{max}) during the measurement period.
 8 Noise monitoring sites and the measured noise levels at each site are summarized
 9 in Table 7-6 and Table 7-7. Figure 7-10 shows the locations of the noise monitoring
 10 sites. Detailed results of noise monitoring can be found in Appendix A. It should be
 11 noted that field work was conducted during COVID-19 restrictions. However, it is not
 12 expected that reduced traffic would have resulted in more than a 1-2 dBA reduction
 13 in measured noise levels; in some cases, traffic noise may potentially have been
 14 louder than typical due to increased vehicle travel speeds.

Table 7-6. Existing Short-Term Community Noise Monitoring Results

Site	Location	Time ¹	Measured Sound Level, dBA			Notes
			L_{eq}	L_{50}	L_{max}	
ST-1	H. Clarke Powers Elementary School	11:31 am	57	42	73	Primary noise source is Humphrey Ave.
ST-2	Del Oro High School	11:09 am	67	59	83	Primary noise source is traffic on Taylor Rd.
ST-3	Sierra College Blvd. and King Rd.	11:52 am	71	67	82	Primary noise source is Sierra College Blvd. Train horn audible in background.
ST-4	Saunders Rd.	12:10 pm	54	42	72	Background noise due to Sierra College Blvd./ Taylor Rd. Natural sounds such as birds and insects. L_{max} due to passing mail truck on Saunders Rd.

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Table 7-6. Existing Short-Term Community Noise Monitoring Results						
Site	Location	Time ¹	Measured Sound Level, dBA			Notes
			L _{eq}	L ₅₀	L _{max}	
ST-5	Barton Rd. – Indian Creek Country Club	9:41 am	66	53	82	Primary noise source is traffic on Barton Rd. Secondary Noise sources include activity at the Indian Creek Driving Range, HVAC noise from the Secret Ravine Winery, and natural sounds such as bird and insect noise.
ST-6	Barton Rd. and Wells Ave.	9:19 am	70	65	83	Primary noise source is Barton Rd. Secondary noise source is Wells Ave.

Source: Saxelby Acoustics, 2020.

¹ All community noise measurement sites have test durations of 10:00 minutes; all measurements conducted on July 13, 2020.

1

Table 7-7. Existing Continuous 24-Hour Ambient Noise Monitoring Results								
Site	Location	L _{dn} (dBA)	Measured Hourly Noise Levels, dBA Low-High (Average) ¹					
			Daytime (7:00 am – 10:00 pm)			Nighttime (10:00 pm – 7:00 am)		
			L _{eq}	L ₅₀	L _{max}	L _{eq}	L ₅₀	L _{max}
LT-1	UPRR at Webb St.	73	75	55	93	56	51	72
LT-2	UPRR at Gayaldo Park	66	58	43	70	60	43	73
LT-3	Interstate 80	75	71	69	85	68	61	84
LT-4	Sierra College Boulevard	64	62	58	80	56	48	74

Source: Saxelby Acoustics, 2020.

¹ All noise measurement conducted July 13 through 16, 2020.

2

1 Community noise monitoring equipment included Larson Davis Laboratories (LDL)
2 Model 812, 820, and 831 precision integrating sound level meters equipped with
3 LDL ½" microphones. The measurement systems were calibrated using an LDL
4 Model CAL200 acoustical calibrator before and after testing. The measurement
5 equipment meets all of the pertinent requirements of the American National
6 Standards Institute (ANSI) for Type 1 (precision) sound level meters.

7 ***Railroad Vibrations***

8 Saxelby Acoustics performed measurements of train vibrations near site long-term
9 site 2 (LT-2). Vibration measurements were conducted using a BRC vibration sensor
10 and Larson Davis model 831 sound meter. Velocity measurements were calibrated
11 in the field using an IMI 699B02 vibration shaker. Based on the vibration
12 measurements, freight and Amtrak trains were found to generate maximum levels
13 of vibration of 72-73 VdB at a distance of 120 feet from the center of the Union
14 Pacific Railroad line.

15 ***Stationary Noise Sources***

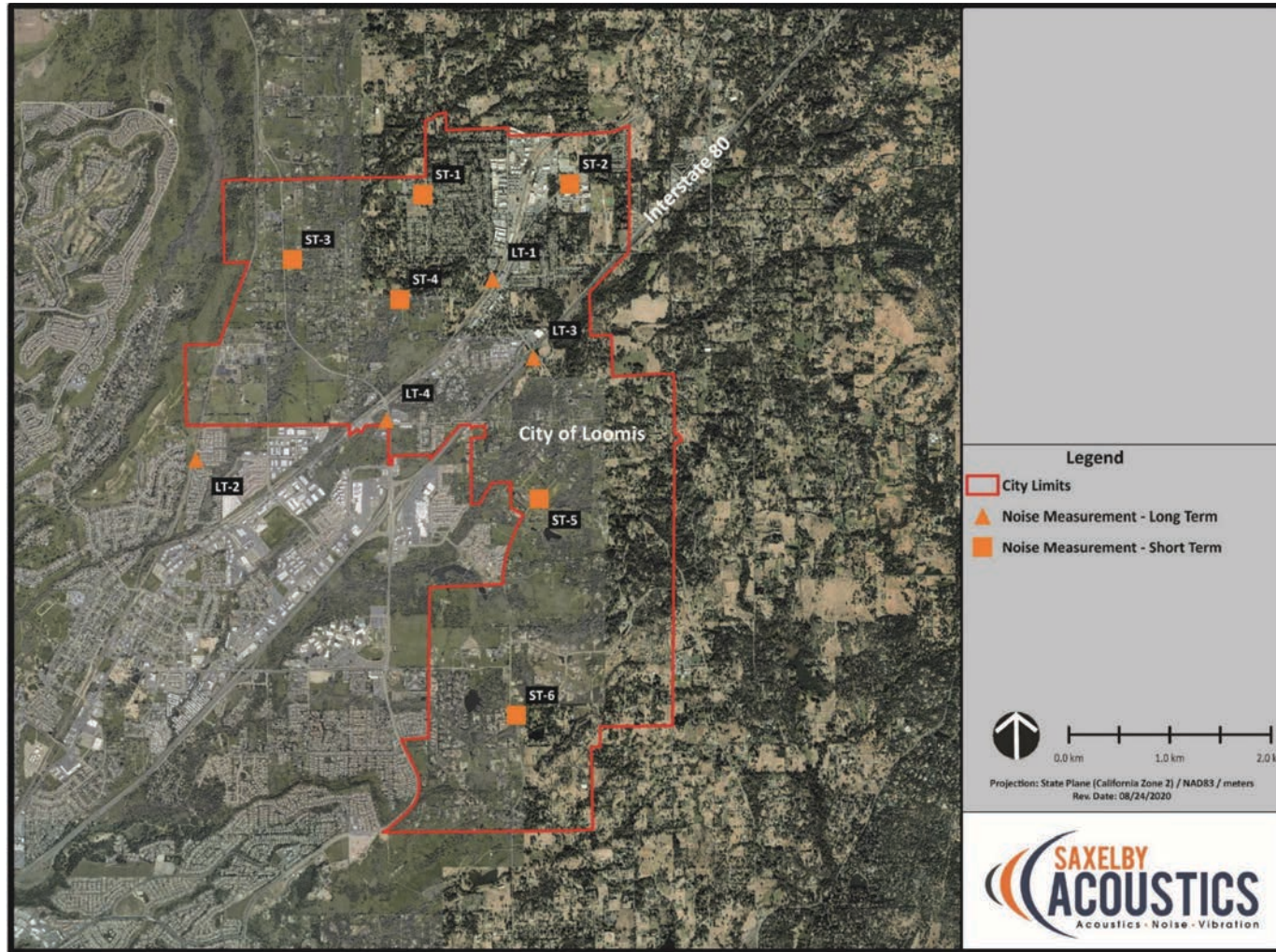
16 Industrial and commercial operations can be significant sources of noise, depending
17 on the type and hours of operation. Stationary noise sources of concern typically
18 include generators, pumps, air compressors, outdoor speakers, motors, heavy
19 equipment, and similar machinery. These are usually often associated with trucking
20 companies, tire shops, auto mechanic shops, metal shops, shopping centers, drive-
21 up windows, car washes, loading docks, gravel operations, athletic fields, and electric
22 generating stations.

23 Many facilities of this type exist in Loomis. However, none have been identified in
24 the existing environmental documents on file with the Town as substantial noise
25 sources causing significant public disruption.

26 Existing or planned commercial/industrial operations may result in noise impacts
27 when they are adjacent to noise sensitive land uses. Typical commercial and
28 industrial noise sources include loading dock operations, parking lot activity, onsite
29 equipment (including heating and air conditioning), and heavy truck idling.

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1 **Figure 7-10: Noise Measurement Sites**



2

1 Currently, potential noise impacts of this type are most common near the Taylor
2 Road corridor, where residential development often backs against commercial and
3 industrial uses. Industrial parcels along Swetzer Court also back against homes
4 along Kathy Way and Arcadia Avenue, resulting in similar noise impacts to residents
5 in that area. On occasion, there have been complaints regarding excessive
6 industrial-related noise, typically involving the use of heavy equipment or trucks
7 during nighttime hours. From a land use planning perspective, fixed-source noise
8 control issues focus upon two goals:

- 9 1. To prevent the introduction of new noise-producing uses in noise-sensitive areas
- 10 2. To prevent encroachment of noise sensitive uses upon existing noise-producing
11 facilities

12 The first goal can be achieved by applying noise level performance standards to
13 proposed new noise-producing uses. The second goal can be met by requiring that
14 new noise-sensitive uses in near proximity to noise-producing facilities include
15 mitigation measures that would ensure compliance with noise performance
16 standards.

17 Typical noise levels associated with various types of stationary noise sources are
18 shown in Table 7-8.

19 **Sensitive Receptors**

20 Noise exposure goals for various types of land uses reflect the varying noise
21 sensitivities associated with those uses. Residences, hospitals, schools, guest
22 lodging, libraries, churches and parks are most sensitive to noise intrusion
23 and therefore have more stringent noise exposure targets than
24 manufacturing or agricultural uses that are not subject to such impacts as
25 sleep disturbance.

26 The relative sensitivity of various land uses is illustrated in the state's noise
27 compatibility guidelines, shown previously in Figure 7-8.

28

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Table 7-8. Typical Stationary Source Noise Levels					
Use	Noise Level at 100 feet, L_{eq}^1	Distance to Noise Contours, feet			
		50 dB L_{eq} (No Shielding)	45 dB L_{eq} (No Shielding)	50 dB L_{eq} (With 5 dB Shielding)	45 dB L_{eq} (With 5 dB Shielding)
Auto Body Shop	56 dB	200	355	112	200
Auto Repair (Light)	53 dB	141	251	79	141
Busy Parking Lot	54 dB	158	281	89	158
Cabinet Shop	62 dB	398	708	224	398
Car Wash	63 dB	446	792	251	446
Cooling Tower	69 dB	889	1,581	500	889
Loading Dock	66 dB	596	1,059	335	596
Lumber Yard	68 dB	794	1,413	447	794
Maintenance Yard	68 dB	794	1,413	447	794
Outdoor Music Venue	90 dB	10,000	17,783	5,623	10,000
Paint Booth Exhaust	61 dB	355	631	200	355
Skate Park	60 dB	316	562	178	316
School Playground / Neighborhood Park	54 dB	158	281	89	158
Truck Circulation	48 dB	84	149	47	84
Vendor Deliveries	58 dB	251	446	141	251

Source: Saxelby Acoustics. 2020.

¹ Analysis assumes a source-receiver distance of approximately 100 feet, no shielding, and flat topography. Actual noise levels will vary depending on site conditions and intensity of the use. This information is intended as a general rule only and is not suitable for final site-specific noise studies.

1 **REGULATORY BACKGROUND**

2 **Federal Plans, Policies, Regulations, and Laws**

3 ***Earthquake Hazards Reduction Act***

4 In October 1977, the U.S. Congress passed the Earthquake Hazards Reduction Act to
5 reduce the risks to life and property from future earthquakes in the United States.
6 To accomplish this goal, the act established the National Earthquake Hazards
7 Reduction Program. The program’s mission is to improve understanding,
8 characterization, and prediction of hazards and vulnerabilities; improve building
9 codes and land use practices; reduce risk through post-earthquake investigations
10 and education; develop and improve design and construction techniques; improve
11 mitigation capacity; and accelerate application of research results.

12 The National Earthquake Hazards Reduction Program was substantially amended in
13 November 1990 by the National Earthquake Hazards Reduction Program Act
14 (NEHRPA), which refined the description of agency responsibilities, program goals,
15 and objectives. The NEHRPA designates the Federal Emergency Management
16 Agency as the program’s lead agency and assigns several planning, coordinating,
17 and reporting responsibilities. Other NEHRPA agencies are the National Institute of
18 Standards and Technology, National Science Foundation, and U.S. Geological Survey.

19 ***Federal Emergency Management Agency***

20 The primary mission of the Federal Emergency Management Agency is to reduce the
21 loss of life and property and to protect the nation from all hazards, including natural
22 disasters, acts of terrorism, and other man-made disasters, by leading and
23 supporting a risk-based, comprehensive emergency management system of
24 preparedness, protection, response, recovery, and mitigation.

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1 ***Disaster Mitigation Act***

2 The Disaster Mitigation Act of 2000 requires a state mitigation plan as a condition of
3 disaster assistance, adding incentives for increased coordination and integration of
4 mitigation activities at the state level through the establishment of requirements for
5 two different levels of state plans: “Standard” and “Enhanced.” States that develop
6 an approved Enhanced State Plan can increase the amount of funding available
7 through the Hazard Mitigation Grant Program. The Disaster Mitigation Act also
8 established a new requirement for local mitigation plans.

9 ***Emergency Planning and Community Right-To-Know Act***

10 The Emergency Planning Community Right-to-Know Act (EPCRA) of 1986 was
11 included under the Superfund Amendments and Reauthorization Act (SARA) law and
12 is commonly referred to as SARA Title III. EPCRA was passed in response to concerns
13 regarding the environmental and safety hazards proposed by the storage and
14 handling of toxic chemicals. EPCRA establishes requirements for federal, state, and
15 local governments, Indian Tribes, and industry regarding emergency planning and
16 Community Right-to-Know reporting on hazardous and toxic chemicals. SARA Title III
17 requires states and local emergency planning groups to develop community
18 emergency response plans for protection from a list of Extremely Hazardous
19 Substances (40 CFR Appendix B). The Community Right-to-Know provisions help
20 increase the public’s knowledge of and access to information on chemicals at
21 individual facilities, their uses, and their release into the environment.

22 ***Hazardous Materials Transportation Act***

23 The Hazardous Materials Transportation Act (HMTA) of 1975 was created to provide
24 adequate protection from the risks to life and property related to the transportation
25 of hazardous materials in commerce by improving regulatory enforcement authority
26 of the Secretary of Transportation.

27 ***United States Department of Transportation***

28 Transportation of chemicals and hazardous materials are governed by the
29 U.S. Department of Transportation (USDOT), which stipulates the types of

1 containers, labeling, and other restrictions to be used in the movement of such
2 material on interstate highways.

3 ***Federal Railroad Administration***

4 The Federal Railroad Administration (FRA) an agency under USDOT, is responsible
5 for requiring each railroad carrier that provides intercity or commuter rail passenger
6 transportation to develop a Railroad Safety Risk Reduction Program, as part of
7 Public Law 110-432, "Federal Rail Safety Improvements," enacted in 2008. The
8 program addresses issues such as railroad safety, highway/rail grade crossings,
9 pedestrian safety, trespasser prevention, and safety enhancements. FRA is also
10 responsible for enforcing safety rules and standards under CFR Title 49, Sections
11 200–272, which cover a comprehensive range of railroad safety topics, including
12 track safety, roadway workplace safety, railroad operation rules, communication,
13 locomotive safety standards, inspections and maintenance, signal systems, grade
14 crossing safety, bridge safety standards, emergency preparedness, passenger safety,
15 safety training, dispatching, and qualification/certification for conductors.

16 ***Federal Highway Administration (FHWA)***

17 The FHWA has developed noise abatement criteria that are used for federally
18 funded roadway projects or projects that require federal review. These criteria are
19 discussed in detail in Title 23 Part 772 of the Federal Code of Regulations (23 CFR
20 772).

21 ***Environmental Protection Agency (EPA)***

22 The EPA has identified the relationship between noise levels and human response.
23 The EPA has determined that over a 24-hour period, an L_{eq} of 70 dBA will result in
24 some hearing loss. Interference with activity and annoyance will not occur if exterior
25 levels are maintained at an L_{eq} of 55 dBA and interior levels at or below 45 dBA.
26 Although these levels are relevant for planning and design and useful for
27 informational purposes, they are not land use planning criteria because they do not
28 consider economic cost, technical feasibility, or the needs of the community.

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1 The EPA has set 55 dBA L_{dn} as the basic goal for residential environments. However,
2 other federal agencies, in consideration of their own program requirements and
3 goals, as well as difficulty of actually achieving a goal of 55 dBA L_{dn} , have generally
4 agreed on the 65 dBA L_{dn} level as being appropriate for residential uses. At 65 dBA
5 L_{dn} , activity interference is kept to a minimum, and annoyance levels are still low. It is
6 also a level that can realistically be achieved.

7 The Department of Housing and Urban Development (HUD) was established in
8 response to the Urban Development Act of 1965 (Public Law 90-448). HUD was
9 tasked by the Housing and Urban Development Act of 1965 (Public Law 89-117) “to
10 determine feasible methods of reducing the economic loss and hardships suffered
11 by homeowners as a result of the depreciation in the value of their properties
12 following the construction of airports in the vicinity of their homes.”

13 HUD first issued formal requirements related specifically to noise in 1971 (HUD
14 Circular 1390.2). These requirements contained standards for exterior noise levels
15 along with policies for approving HUD-supported or assisted housing projects in
16 high noise areas. In general, these requirements established the following three
17 zones:

- 18 > 65 dBA L_{dn} or less - an acceptable zone where all projects could be approved.
- 19 > Exceeding 65 dBA L_{dn} but not exceeding 75 dBA L_{dn} - a normally unacceptable
20 zone where mitigation measures would be required and each project would
21 have to be individually evaluated for approval or denial. These measures
22 must provide 5 dBA of attenuation above the attenuation provided by
23 standard construction required in a 65 to 70 dBA L_{dn} area and 10 dBA of
24 attenuation in a 70 to 75 dBA L_{dn} area.
- 25 > Exceeding 75 dBA L_{dn} - an unacceptable zone in which projects would not, as
26 a rule, be approved.

27 HUD’s regulations do not include interior noise standards. Rather, a goal of 45 dBA
28 L_{dn} is set forth and attenuation requirements are geared towards achieving that
29 goal. HUD assumes that using standard construction techniques, any building will
30 provide sufficient attenuation so that if the exterior level is 65 dBA L_{dn} or less, the
31 interior level will be 45 dBA L_{dn} or less. Thus, structural attenuation is assumed at 20
32 dBA. However, HUD regulations were promulgated solely for residential

1 development requiring government funding and are not related to the operation of
2 schools or churches.

3 The federal government regulates occupational noise exposure common in the
4 workplace through the Occupational Health and Safety Administration (OSHA) under
5 the EPA. Noise exposure of this type is dependent on work conditions and is
6 dependent on work conditions and is addressed through a facility's or construction
7 contractor's health and safety plan.

8 **State Plans, Policies, Regulations, and Laws**

9 ***Alquist-Priolo Earthquake Fault Zoning Act***

10 The Alquist-Priolo Act (Public Resources Code Sections 2621–2630) was enacted in
11 1972 to mitigate the hazard of surface faulting to structures designed for human
12 occupancy. The main purpose of the law is to prevent buildings used for human
13 occupancy from being constructed on the surface trace of active faults. The law
14 addresses only the hazard of surface fault rupture and is not directed toward other
15 earthquake hazards.

16 The Alquist-Priolo Act requires the State Geologist to establish regulatory zones
17 known as “earthquake fault zones” around the surface traces of active faults and to
18 issue appropriate maps. The maps are distributed to all affected cities, counties, and
19 state agencies for their use in planning efforts. Before a project can be permitted in
20 a designated Alquist-Priolo Earthquake Fault Zone, cities and counties must require
21 the completion of a geologic investigation demonstrating that proposed buildings
22 would not be constructed across active faults.

23 ***Seismic Hazards Mapping Act***

24 The Seismic Hazards Mapping Act of 1990 (Public Resources Code Sections 2690
25 through 2699.6) addresses earthquake hazards from non-surface fault rupture,
26 including liquefaction and seismically induced landslides. The act established a
27 mapping program for areas that have the potential for liquefaction, landslide, strong
28 ground shaking, or other earthquake-related and geologic hazards. The act also

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1 specifies that the lead agency for a project may withhold development permits until
2 geologic or soils investigations are conducted for specific sites and mitigation
3 measures are incorporated into plans to reduce the hazards associated with
4 seismicity and unstable soils.

5 ***California Building Standards Code***

6 The California Building Standards Commission coordinates, manages, adopts, and
7 approves building codes in California. The CBC (Title 24 of the California Code of
8 Regulations) provides minimum standards for building design in California. The CBC
9 applies to building design and construction in the state and is based on the federal
10 Uniform Building Code (UBC) used widely throughout the country (generally
11 adopted on a state-by-state or district-by-district basis). The CBC has been modified
12 for California conditions with numerous more detailed or more stringent
13 regulations. Where no other building codes apply, Chapter 29 of the CBC regulates
14 excavation, foundations, and retaining walls.

15 The state earthquake protection law (California Health and Safety Code, Section
16 19100 et seq.) requires that structures be designed to resist stresses produced by
17 lateral forces caused by wind and earthquakes. The CBC requires that any structure
18 undergo a seismic-design evaluation that assigns the structure to one of six
19 categories, A–F. Category F structures require the most earthquake-resistant design.

20 The CBC philosophy focuses on “collapse prevention,” meaning that structures are to
21 be designed to prevent collapse during the maximum level of ground shaking that
22 could reasonably be expected to occur at a site. CBC Chapter 16 specifies exactly
23 how each seismic-design category is to be determined on a site-specific basis, based
24 on site-specific soil characteristics and proximity to potential seismic hazards.

25 Chapter 18 of the CBC regulates the excavation of foundations and retaining walls,
26 as well as the preparation of a preliminary soil report, engineering geologic report,
27 geotechnical report, and supplemental ground-response report. Chapter 18 also
28 regulates the analysis of expansive soils and the determination of depth to the
29 groundwater table. For structures in Seismic Design Category C, Chapter 18 requires
30 analysis of slope instability, liquefaction, and surface rupture attributable to faulting
31 or lateral spreading. For structures in Seismic Design Categories D, E, and F, Chapter

1 18 requires these same analyses plus an evaluation of lateral pressures on
2 basement and retaining walls, liquefaction and loss of soil strength, and lateral
3 movement or reduction of the foundation's soil-bearing capacity.

4 Chapter 18 also requires that mitigation measures be considered in structural
5 design. Mitigation measures may include stabilizing the ground, selecting
6 appropriate foundation types and depths, selecting appropriate structural systems
7 to accommodate anticipated displacements, or using any combination of these
8 measures. The potential for liquefaction and soil strength loss must be evaluated for
9 site-specific peak-ground-acceleration magnitudes and source characteristics
10 consistent with the design earthquake ground motions. The peak ground
11 acceleration must be determined in a site-specific study, the contents of which are
12 specified in CBC Chapter 18.

13 Finally, Appendix J of the CBC regulates grading activities, including drainage and
14 erosion control and construction on expansive soils, areas subject to liquefaction,
15 and other unstable soils.

16 ***Senate Bill 1369 (2004) and Assembly Bill 2911 (2019) – Defensible*** 17 ***Space for Fire Protection***

18 Senate Bill 1369 and Assembly Bill 2911 amended Public Resources Code Section
19 4291 to require owners or lessees of buildings or structures in or adjoining a
20 mountainous area, forest-covered lands, brush-covered lands, grass-covered lands,
21 or land that is covered with flammable material, to maintain 100 feet of defensible
22 space around structures. The intensity of fuels management may vary within the
23 100-foot zone, the first 30 feet from the structure being the most intense in terms of
24 fuels management. AB 2911 also authorized the creation of firebreaks and allows
25 state or local agencies to designate a defensible space zone that is greater than 100
26 feet, if required. Reducing vegetation in the defensible space zone is intended to
27 help slow or stop the spread of wildfire and to help protect structures from catching
28 fire—either from direct flame contact or radiant heat. Defensible space is also
29 important for the protection of firefighters.

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1 ***Public Resources Code Sections 4427 and 4442 – Fire Prevention***

2 Public Resources Code Section 4427 prohibits the use or operation of any motor,
3 engine, boiler, stationary equipment, welding equipment, cutting torches, grinding
4 devices, or other tools from which a spark or flame may originate—during periods
5 when a burn permit is required—on forest-covered land, brush-covered land, or
6 grass-covered land, without doing both of the following:

- 7 1. First clearing away all flammable material, including snags, from the area around
8 such operation for a distance of 10 feet; and
- 9 2. Maintaining one serviceable round point shovel with an overall length of not less
10 than forty-six (46) inches and one backpack pump water-type fire extinguisher
11 fully equipped and ready for use at the immediate area during the operation.

12 (Public Resources Code Section 4427 does not apply to portable power-saws and
13 other portable tools powered by a gasoline-fueled internal combustion engine.)

14 Public Resources Code Section 4442 prohibits the use of any internal combustion
15 engine which uses hydrocarbon fuels on any forest-covered land, brush-covered
16 land, or grass-covered land unless the engine is equipped with a spark arrester or
17 the engine used to power a vehicle is equipped with a muffler.

18 ***Burn Permits***

19 Residential burning is the most common burning activity in Placer County. Residents
20 most commonly burn vegetation from yard clean-up. Materials that may be legally
21 burned in the Planning Area consist of dry tree and brush trimmings, dry leaves and
22 pine needles, dry plants, and dry weeds; burning of household trash or garbage is
23 not allowed. A burn permit is required from the South Placer Fire District. Burning is
24 only allowed on days and hours permitted by Placer County Air Pollution Control
25 District. As part of the burn permit, the following actions and restrictions apply:

- 26 > Maximum pile size is 4 feet in diameter.
- 27 > Clear all flammable material and vegetation within 10 feet of the outer edge
28 of the burn pile.

- 1 > Keep a water supply close to the burn pile.
- 2 > An adult must be in attendance with a shovel until the fire is out.
- 3 > No burning may be undertaken unless weather conditions are safe, with no
- 4 strong wind.
- 5 > The permittee must maintain the original signed permit in their possession
- 6 during the burning operation and is responsible for maintaining control of
- 7 the fire at all times.

8 ***Department of Toxic Substances Control***

9 The California Department of Toxic Substances Control (DTSC) has primary
10 regulatory responsibility, with delegation of enforcement to local jurisdictions that
11 enter into agreements with the State agency, for the management of hazardous
12 materials and the generation, transport and disposal of hazardous waste under the
13 authority of the Hazardous Waste Control Law. Since August 1, 1992, DTSC has been
14 authorized to implement the state's hazardous waste management program for
15 California Environmental Protection Agency (CalEPA).

16 ***California Occupational Safety and Health Administration***

17 California Occupational Safety and Health Administration (Cal-OSHA) assumes
18 primary responsibility for developing and enforcing workplace safety regulations
19 within California. Cal-OSHA regulations pertaining to the use of hazardous materials
20 in the workplace (Title 8 of the California Code of Regulations) include requirements
21 for safety training, availability of safety equipment, accident and illness prevention
22 programs, hazardous substance exposure warnings, and preparation of emergency
23 action and fire prevention plans. Cal-OSHA enforces hazard communication
24 program regulations that contain training and information requirements, including
25 procedures for identifying and labeling hazardous substances, communicating
26 hazard information related to hazardous substances and their handling, and
27 preparation of health and safety plans to protect workers and employees at
28 hazardous-waste sites. The hazard communication program requires that employers
29 make Safety Data Sheets available to employees, and requires documentation of
30 informational and training programs for employees.

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1 ***State Water Resources Control Board***

2 The State Water Resources Control Board (SWRCB) was established in 1967 by
3 combining the State Water Quality Control Board and the State Water Rights Board,
4 but its work originated in the 1950s. The Central Valley RWQCB is authorized by the
5 SWRCB to enforce provisions of the Porter-Cologne Water Quality Control Act of
6 1969. This act gives the Central Valley RWQCB authority to require groundwater
7 investigations when the quality of groundwater or surface waters of the state is
8 threatened and to require remediation of the site, if necessary.

9 ***California Department of Transportation***

10 The California Department of Transportation (Caltrans) was established in 1972 and
11 manages more than 50,000 miles of California's highway and freeway lanes,
12 provides inter-city rail services, and permits more than 400 public-use airports and
13 special-use hospital heliports. Caltrans is also the first responder for hazardous
14 material spills and releases that occur on highway and freeway lanes and inter-city
15 rail services.

16 Caltrans has adopted policy and guidelines relating to traffic noise as outlined in the
17 Traffic Noise Analysis Protocol (Caltrans 2011). The noise abatement criteria
18 specified in the protocol are the same as those specified by FHWA.

19 ***Senate Bill 1082, California Environmental Protection Agency's*** 20 ***Unified Program***

21 In 1993, Senate Bill 1082 gave CalEPA the authority and responsibility to establish a
22 unified hazardous waste and hazardous materials management and regulatory
23 program, commonly referred to as the Unified Program. The purpose of this
24 program is to consolidate and coordinate six different hazardous materials and
25 hazardous waste programs, and to ensure that they are consistently implemented
26 throughout the state. The Unified Program is overseen by CalEPA with support from
27 DTSC, RWQCBs, the California Office of Emergency Services (OES), and the State Fire
28 Marshal.

1 The Unified Program Administration and Advisory Group (UPAAG) was created to
2 foster effective working partnerships between federal, State and local agencies. The
3 UPAAG's goals and objectives are listed in the UPAAG Strategic Plan. The six
4 programs are:

- 5 > Hazardous Materials Release Response Plans and Inventories (Business
6 Plans)
- 7 > California Accidental Release Prevention Program
- 8 > Underground Storage Tank Program
- 9 > Aboveground Petroleum Storage Act Program
- 10 > Hazardous Waste Generator and Onsite Hazardous Waste Treatment (tiered
11 permitting) Programs
- 12 > California Uniform Fire Code: Hazardous Material Management Plans and
13 Hazardous Material Inventory Statements

14 State law requires county and local agencies to implement the Unified Program. The
15 agency in charge of implementing the program is called the Certified Unified
16 Program Agency (CUPA). The Placer County Environmental Health Services Division
17 is the designated CUPA for the county and the Town of Loomis. The Town and the
18 Placer County Environmental Health Services Division work together to regulate
19 hazardous materials in the Planning Area.

20 ***Assembly Bills 2185 and 2189, Hazardous Materials Business***
21 ***Emergency Response Plan Program, CA Health and Safety Code***
22 ***Chapter 6.95***

23 The State of California requires an owner or operator of a facility to complete and
24 submit a Hazardous Material Business Plan (HMBP) to the Governor's OES if the
25 facility handles a hazardous material or mixture containing a hazardous material in
26 amounts greater than specified threshold quantities. Placer County Environmental
27 Health is responsible for the implementation of the HMBP program in Placer
28 County. Congress requires Environmental Protection Agency (EPA) Region 9 to make

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1 HMBP program information available to the public through the EPA's Envirofacts
2 Data Warehouse.

3 ***California Air Resources Board***

4 The California Air Resources Board (CARB) oversees implementation of and
5 compliance with the National Emission Standard for Hazardous Air Pollutants
6 (NESHAP) for asbestos, and investigates all related complaints, as specified by
7 California Health and Safety Code Section 39658 (b)(1). The Placer County Air
8 Pollution Control District requires notification of CARB and EPA for demolition and
9 renovation where asbestos-containing materials may be present. CARB reviews and
10 investigates each notification and if it is determined that a structure contains
11 asbestos-containing materials, demolition or renovation of the structure must be
12 compliant with NESHAP standards for demolition and renovation (40 CFR 61.145).

13 ***Lead-Based Paint, California Code of Regulations Title 17***

14 Title 17, Division 1, Chapter 8, of the California Code of Regulations requires that
15 work on any structure built prior to January 1, 1978 use lead-safe practices. Such
16 practices include containment of the work area and cleaning of the work area after
17 project completion. California Code of Regulations Chapter 8 also covers
18 accreditation of training providers and certification of individuals to perform lead
19 abatement. Cal-OSHA provides construction and general industry lead standards
20 within Title 8 of the California Code of Regulations, which contains occupational
21 health requirements for lead abatement. DTSC regulations for hazardous waste are
22 provided within California Code of Regulations Title 22, Division 4.5. Demolition or
23 renovation of structures with lead-based paint would be required to comply with
24 procedures in California Code of Regulations Title 22.

25 ***California Department of Transportation (Caltrans)***

26 Caltrans has adopted policy and guidelines relating to traffic noise as outlined in the
27 Traffic Noise Analysis Protocol (Caltrans 2011). The noise abatement criteria
28 specified in the protocol are the same as those specified by FHWA.

1 ***Governor’s Office of Planning and Research (OPR)***

2 OPR has developed guidelines for the preparation of general plans (Office of
3 Planning and Research, 2017). The guidelines include land use compatibility
4 guidelines for noise exposure.

5 **Local Plans, Policies, Regulations, and Laws**

6 ***Placer County Local Hazard Mitigation Plan***

7 Loomis is a participant, in cooperation with Placer County, in the Placer County Local
8 Hazard Mitigation Plan (LHMP) (Town of Loomis and Placer County 2016). The LHMP,
9 Annex D, provides a vulnerability assessment that analyzes the population, property,
10 and other assets at risk to hazards ranked of medium or high significance in the
11 Planning Area. The analysis is primarily focused on flooding, wildfire, and hazardous
12 materials transport; it also includes earthquakes and severe weather. Programs,
13 plans, policies, codes, and ordinances that would reduce these hazards are
14 identified in the LHMP. Mitigation and loss prevention are focused on
15 implementation of the identified programs, plans, policies, codes, and ordinances.
16 The 2016 LHMP does not include a vulnerability analysis related to climate change,
17 which was not required at the time the LHMP was prepared. Placer County kicked
18 off its 2021 LHMP Update in October 2020. The Town of Loomis continues to be a
19 participating jurisdiction in the County’s LHMP. Climate change is one of the hazard
20 areas being addressed as a part of this update and will be included in the Loomis
21 Annex to inform the 2021 LHMP.

22 ***Placer County Health and Human Services Strategic Plan***

23 Placer County Health and Human Services serves the community through direct
24 services and a network of public, private, and community-based partners for a safe
25 and healthy community. Placer County Health and Human Services department is
26 split into six divisions: Adult System of Care; Children’s System of Care; Human
27 Services; Public Health; Environmental Health and Animal Services; and
28 Administrative Services. Placer County Health and Human Services underwent a
29 strategic planning process in 2018 to 2019, incorporating the perspectives of a wide

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1 range of stakeholders, to produce its 2019-2021 Strategic Plan: “Building a Healthier
2 Community Together.” This plan serves as a blueprint for the department regarding
3 how to meet the current and changing needs of the community, including
4 addressing public health and other human services, as well as emergency
5 management and preparedness. Placer County Health and Human Services
6 coordinates with a wide range of local, regional, and State agencies and
7 organizations to comprehensively serve the community.

8 ***Placer County Community Wildfire Protection Plan***

9 The Placer County Community Wildfire Protection Plan (Anchor Point 2012),
10 presents an assessment of the existing wildfire risk for each local community and
11 fire department capabilities (based on 2012 conditions), describes resources
12 available to residents, and provides recommendations to reduce wildfire risk.

13 ***Loomis Municipal Code 12.04 – Grading, Erosion, and Sediment*** 14 ***Control***

15 A grading permit is required in situations where the amount of grading exceeds 50
16 cubic yards, would occur within a riparian area, or would involve clearing more than
17 1 acre of land. The grading permit requires submittal of grading plans, construction
18 specifications, details related to construction in any water sources, necessary
19 drainage facilities, an erosion and sediment control plan that provides the details of
20 temporary and permanent sediment control measures, a landscaping plan
21 (including temporary erosion control plantings), and calculations related to cut and
22 fill. If rough grading is proposed between October 1 and May 1, a more detailed
23 schedule of grading activities and use of erosion and sediment control facilities may
24 be required.

25 ***Loomis Municipal Code Section 11.08 – Flood Damage Prevention***

26 The Town’s Flood Damage Prevention Ordinance is designed to protect public health
27 and safety, and to minimize public and private losses due to flood conditions. The
28 ordinance includes specific methods and provisions to:

- 1 > Restrict or prohibit uses which are dangerous to health, safety and property
2 due to water or erosion hazards, or which result in damaging increases in
3 erosion or flood heights or velocities;
- 4 > Require that uses vulnerable to floods, including facilities which serve such
5 uses, be protected against flood damage at the time of initial construction;
- 6 > Control the alteration of natural floodplains, stream channels and natural
7 protective barriers, which help accommodate or channel flood waters;
- 8 > Control filling, grading, dredging and other development which may increase
9 flood damage; and
- 10 > Prevent or regulate the construction of flood barriers which will unnaturally
11 divert flood waters or which may increase flood hazards in other areas.

12 ***Loomis Municipal Code Section 11.04 – Adoption of California Fire***
13 ***Code, As Amended***

14 The South Placer Fire District evaluated the CBC Title 24, Part 9, known as the 2019
15 California Fire Code, and prepared an amendment that reflects the local climatic,
16 geological, and topographical conditions in Placer County. The Town has adopted
17 the 2019 California Fire Code with the local amendments, in Loomis Municipal Code
18 Section 11.04. The California Fire Code establishes minimum standards for
19 protection of life and property from fire, explosion, and hazardous materials release.
20 Fire districts are authorized by law to enact stricter standards than those in state or
21 local codes. Municipal Code Section 11.04 regulates roadway widths and turning
22 radii, posting of plainly visible building addresses, fire flow requirements, storage of
23 flammable hazards materials, and addresses interior building sprinkler systems and
24 alarms, construction of turn-arounds at dead-end roads, and fire access roadways
25 and gates.

26 ***Loomis Municipal Code Section 13.34.050 – Landscape Standards in***
27 ***Fire-prone Areas***

28 Loomis Municipal Code Section 13.34.050 requires that on sites in heavily wooded
29 and/or vegetated areas of the Planning Area that are identified by the fire district as

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- 1 being fire-prone, fire prevention will be addressed by providing fire-resistant
- 2 landscaping buffers between development areas and naturally vegetated areas.

3 ***Loomis General Plan***

- 4 The existing Town of Loomis General Plan goals and policies can be found in the
- 5 Public Health & Safety Element (Chapter VIII) in General Plan Volume I. The Town's
- 6 goals are to protect Town residents and workers from natural and human-induced
- 7 hazards, including harmful and annoying noise effects, mitigate noise effects
- 8 created by roadway traffic and non-residential land uses while discouraging the
- 9 construction of sound walls, maintain and enhance the quiet and rural ambiance of
- 10 the Town, and to minimize noise effects of railroad operations on residential and
- 11 other sensitive land uses.

12
13

Chapter

8

PARKS, RECREATION, AND OPEN SPACE



1 **PARKS, RECREATION, AND OPEN SPACE**

2 Open space is both a land use designation and a way of referring to land that is not
3 developed with buildings or other intensive land uses. As a land use designation,
4 open space is discussed in the Land Use Element and shown on the Land Use Map
5 and if used for conservation of natural resources would be discussed in the
6 Conservation Element. This setting refers to the consideration of open space as it is
7 applied to land that is set aside for recreation and parks. Each of these is important
8 to the identity of the town as a rural community, and to the preservation of the
9 natural beauty of Loomis.

10 The Town of Loomis is proud of its partnership with schools and other agencies to
11 meet the recreational needs of its residents. This element recognizes the significant
12 benefit residents gain from these partnerships and continues the practice of
13 working with others to improve the quality of life in Loomis.

14 The Town is fortunate to have riparian areas, natural creeks, and natural rural
15 beauty. The Conservation Element preserves these areas to maintain the Town's
16 rural character and natural resources. The Parks, Recreation and Open Space
17 Element encourages additional areas near the resource that could be developed
18 with park and recreational facilities to allow residents to enjoy the preserved natural
19 beauty. Combined with trails and sidewalks, the addition of trails along natural
20 features of the Town should incentivize walking to schools, employment, and
21 recreation.

22 **EXISTING PARK AND RECREATIONAL FACILITIES**

23 The Town owns approximately five and a half acres of developed parks and relies on
24 regional parks and school facilities to meet the remainder of residents' park,
25 recreation, and open space needs. If only the Town-owned parkland is considered,
26 the current ratio of parkland to population is 0.82 acre per 1,000 persons.
27 Fortunately, through a series of joint use agreements with the school district, and
28 proximity to regional parks, there are more opportunities than this amount of
29 parkland would suggest. The land use pattern for the Town has large-lot residential

PARKS, RECREATION, AND OPEN SPACE

1 on the periphery, with gradually smaller lots as development is closer to the Town
2 center. Many of the existing residential parcels at the periphery are larger than the
3 Town parks which reduces the need for parkland at the edge of Town as these
4 residents have access to open space on their properties. As development becomes
5 more intense near the Town core, or new higher-density development is approved,
6 the need for parkland will increase as the available land for each unit will be
7 substantially reduced.

8 There are also several other facilities and open space resources that serve the
9 community's recreational needs. The Town has contributed funds to the Loomis
10 Union School District and to Del Oro High School to provide recreational
11 improvements. Although school facilities have limitations on use of their facilities
12 (available to the public approximately 40 percent of the time), they represent a
13 significant park and recreation resource for Loomis residents. Placer County also
14 operates the Loomis Basin Regional Park on the northeast border of the Town, which
15 Loomis residents frequently use. In addition, Sierra Community College has
16 recreational facilities available for limited use by non-students. Bikeways, hiking and
17 equestrian trails also provide recreational opportunities for residents. Figure 8-1
18 identifies the locations of all park and recreation facilities in available to Loomis
19 residents. An inventory of park and recreational facilities in the vicinity of Loomis is
20 provided in Table 8-1.

21 **BIKEWAYS AND TRAILS**

22 The Town of Loomis has designated several bikeways and trails within the
23 community, which are also part of the Placer County Bikeway System and Trails
24 Master Plan. Currently, one bikeway has been developed in Loomis along King Road.
25 The County has designated several additional bikeways within Loomis as shown on
26 Figure 8-1.

27

PARKS, RECREATION, AND OPEN SPACE

Table 8-1: Park & Recreational Facilities Accessible to the Town of Loomis			
Facility	Amenities	Acreage	Location
Town Owned Parks			
Sunrise-Loomis Neighborhood Park	2 softball fields; 1 tot lot; picnic area; open space	4.6	North Planning Area on Arcadia Avenue, between Humphrey and Swetzer Roads
Blue Anchor Park	Skateboard park; pavilion, splash pad, picnic tables	1.0	Next to the Loomis Train Station near Horseshoe Bar and Taylor Road.
Regional Parks Outside Town			
Loomis Basin Regional Park (Placer County)	2 softball fields; 1 soccer field; 1 basketball court; 1 tot lot; picnic area; snack bar; portable restrooms	33.0	Intersection of King and Winters Roads
School Facilities Accessed Through Agreement			
Loomis Elementary School	2 softball fields; 2 volleyball courts; 3 basketball courts; track field; tot lot	3.5	Intersection of Taylor and King Roads
H. Clarke Powers School	2 ball fields/soccer fields	6.5	Humphrey Road
Franklin Elementary School	3 ball diamonds; 1 soccer field; 2 basketball courts; 1 track field; 2 volleyball courts; 1 tot lot	4.2	Laird Road
Del Oro High School	1 softball field; 2 soccer fields; 1 football fields; track field; pool; 4 basketball courts; 5 tennis courts; 2 hardball courts	25.0 (approx.)	Taylor Road
Sierra Community College	track fields; trails	not known	Intersection of Rocklin Road and Sierra College Blvd.
Total Acreage	77.8		

Source: Town of Loomis Draft Park and Recreation Master Plan, 2010

PARKS, RECREATION, AND OPEN SPACE

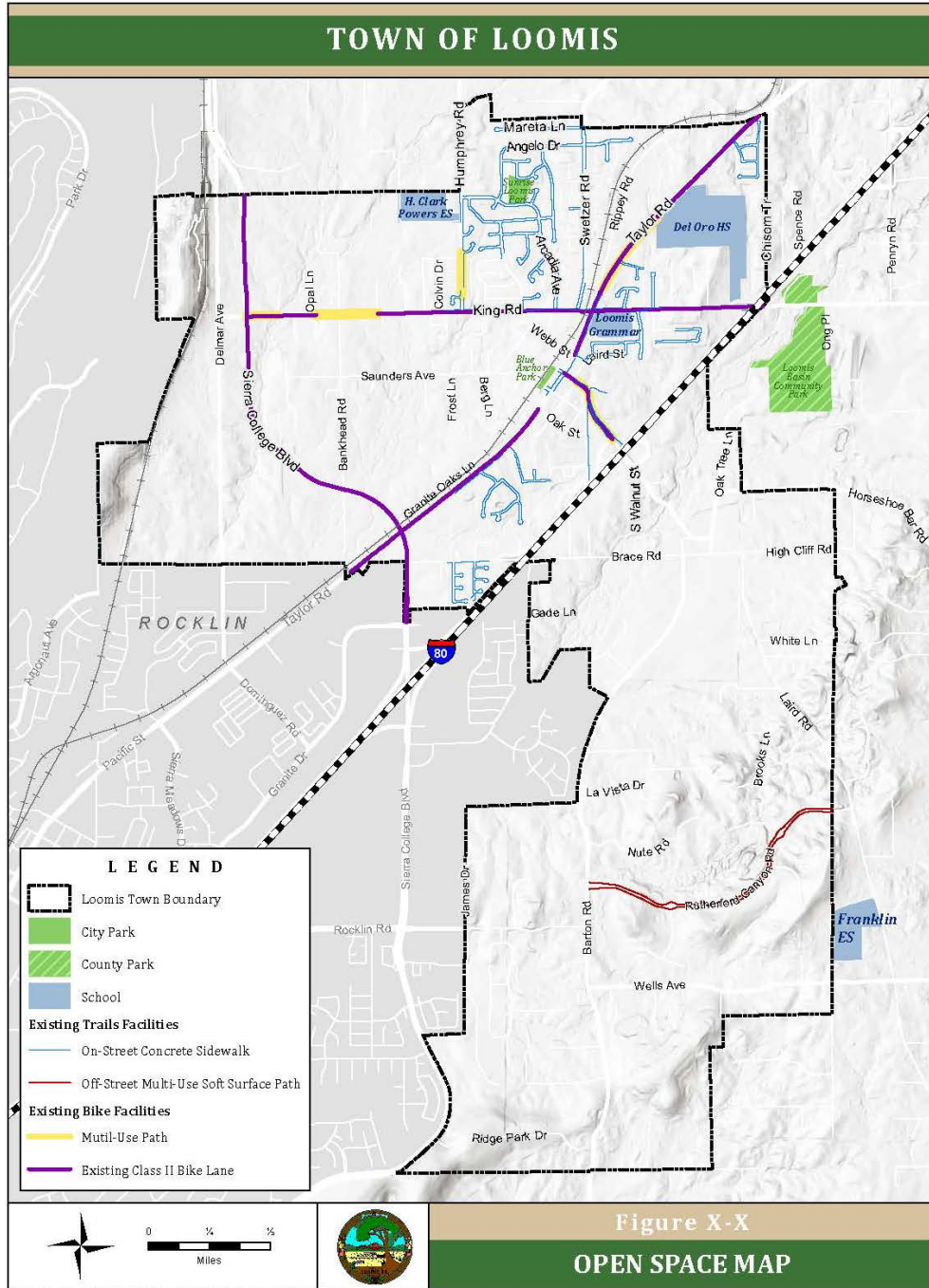
1 Antelope Creek and Secret Ravine provide opportunities for open space corridors
2 potentially providing bikeways, hiking and equestrian trails. The creeks provide
3 connections between the north and south areas of town, and to areas south of
4 Loomis. A large area surrounding Secret Ravine north of Horseshoe Bar Road and
5 west of Interstate 80 is designated, but not yet improved, as Public Quasi Public
6 land. The County designated Secret Ravine as a Class 1 bicycle corridor in the 2004
7 Dry Creek Greenway Regional Vision master plan. The Secret Ravine corridor is
8 planned to extend from Loomis Basin Regional Park, west to the city of Roseville.
9 This bikeway has not yet been improved. Secret Ravine has also been designated as
10 a hiking and equestrian trail in the Loomis Basin Horsemen’s Association Trails
11 Master Plan and in other County planning documents. While no bikeways or trails
12 have been designated along Antelope Creek, it is an important open space resource
13 providing flood protection and significant riparian habitat value and is also used as
14 an informal hiking trail. The County trails master plan and surrounding community
15 plans designate trails and pathways along several corridors within Loomis, as shown
16 in Figure 8-1.

17 **OTHER RECREATIONAL FACILITIES**

18 There are several other regional recreational facilities within the Loomis Basin
19 available to Town residents. These include Griffith Quarry Historic Park in Penryn,
20 Mormon Park to the northeast town east of I-80, the Folsom Lake State Recreation
21 Area (FLSRA), the American River Parkway, and private and municipal golf courses.
22 The lake provides opportunities for boating, camping, hiking trails, beach activities,
23 and picnic facilities. A regional trail can be accessed from Beals Point and Granite Bay
24 (access points for FLSRA) which provide a connection to the American River Parkway
25 along the north shore of Lake Natoma to the lower American River Parkway trail
26 system.

PARKS, RECREATION, AND OPEN SPACE

1 **Figure 8-1 : Park and Recreation Facilities**



2

PARKS, RECREATION, AND OPEN SPACE

1

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Chapter

9

ENVIRONMENTAL JUSTICE

1



1 **ENVIRONMENTAL JUSTICE**

2 Environmental Justice addresses discrimination through unjust land use policies and
3 practices. Historically, policies that have discriminated against different groups of
4 people have been based on practices of relocating those groups to undesirable or
5 less desirable or hazardous locations, preventing groups from owning property, and
6 allowing for health hazards to persist in areas in which certain groups reside. Issues
7 of environmental justice may also occur in relation to access to food and recreation.

8 Although environmental justice has been a general plan consideration since 1999,
9 passage of SB 1000 in 2016 led to the requirement for an Environmental Justice
10 Element in city and county general plans in which a disadvantaged community
11 exists. The purpose of SB 1000 is to, “Identify objectives and policies to reduce the
12 unique or compounded health risks in disadvantaged communities by means that
13 include, but are not limited to, the reduction of pollution exposure, including the
14 improvement of air quality, and the promotion of public facilities, food access, safe
15 and sanitary homes, and physical activity” (Gov. Code, § 65302(h)(1)(A)).

16 Under AB 1553, California Government Code § 65040.12 tasks the California Office
17 of Planning and Research (OPR), which oversees General Planning in California, as a
18 coordinating agency for state government environmental justice programs. OPR
19 must coordinate with other state agencies such as the Natural Resources Agency,
20 Environmental Protection Agency, and others to coordinate environmental justice
21 programs and data with federal agencies. OPR is also tasked with developing
22 General Plan Guidelines for environmental justice. The purpose of the guidelines is
23 to:

- 24 1. “Propose methods for the equitable distribution of new public facilities and
25 services that increase and enhance community quality of life throughout the
26 community, given the fiscal and legal constraints that restrict the siting of these
27 facilities;
- 28 2. Propose methods for providing for the location, if any, of industrial facilities and
29 uses that, even with the best available technology, will contain or produce
30 material that, because of its quantity, concentration, or physical or chemical
31 characteristics, poses a significant hazard to human health and safety, in a

ENVIRONMENTAL JUSTICE

- 1 manner that seeks to avoid over-concentrating these uses in proximity to
2 schools or residential dwellings;
- 3 3. Propose methods for providing for the location of new schools and residential
4 dwellings in a manner that seeks to avoid locating these uses in proximity to
5 industrial facilities and uses that will contain or produce material that because of
6 its quantity, concentration, or physical or chemical characteristics, poses a
7 significant hazard to human health and safety; and
- 8 4. Propose methods for promoting more livable communities by expanding
9 opportunities for transit-oriented development so that residents minimize traffic
10 and pollution impacts from traveling for purposes of work, shopping, schools,
11 and recreation.”

12 On June 24, 2020, OPR added environmental justice guidelines to the General Plan
13 Guidelines document. The General Plan Guidelines provides a history of
14 Environmental Justice in California, references environmental justice bills, including
15 SB 1000 and AB 1553, describes the California Communities Environmental
16 Screening Tool, describes how environmental justice may be integrated into the
17 General Plan, and establishes guidance for determining if an Environmental Justice
18 Element is required in a jurisdiction, and what policy topics should be included. As
19 established in the General Plan Guidelines, an Environmental Justice Element is only
20 required in jurisdictions within which a “disadvantaged community” has been
21 identified; however, an Environmental Justice Element may be included in a General
22 Plan as a non-required element for jurisdictions without a “disadvantaged
23 community” at the discretion of that jurisdiction. Jurisdictions in which an
24 Environmental Justice element is not required may include aspects of environmental
25 justice, but are not required to address any specific topics or the breadth of topics
26 that a jurisdiction with a “disadvantaged community” would be required to address.
27 Environmental Justice policies may be included in an environmental justice element
28 or may be referenced from other related elements in the General Plan. As noted in
29 the content of the four guideline areas listed above, many aspects of environmental
30 justice are addressed through other elements of a general plan, including land use,
31 housing, circulation, parks and recreation, health and safety, and public services and
32 facilities.

ENVIRONMENTAL JUSTICE

1 Fundamental to environmental justice is the term “disadvantaged community”
 2 which means an area that has been identified by the California Environmental
 3 Protection Agency (CalEPA) or a low-income area that is disproportionately affected
 4 by environmental pollution or hazards that can lead to adverse health or
 5 environmental effects. Low-income areas are defined as areas with household
 6 incomes below 80 percent of the statewide median or below thresholds established
 7 by the California Department of Housing and Community Development.

8 The CalEPA maintains an environmental justice program and an environmental
 9 justice task force that coordinates compliance and identifies disadvantaged
 10 communities. The California Communities Environmental Health Screening Tool
 11 (CalEnviroScreen) is maintained by the CalEPA and provides a mapping data tool to
 12 identify communities disproportionately affected by environmental pollution. This
 13 tool identifies disadvantaged communities. Current CalEnviroScreen data is from
 14 June, 2018, and shows southern Loomis within the lowest risk category of 1-10% and
 15 the portion of Loomis north of I-80 within the second lowest category of 11-20%. A
 16 draft update (CalEnviroScreen 4.0) has been prepared, but not yet finalized, and that
 17 draft detail is also shown with screening percentiles of 13% and 16%. These very low
 18 percentiles continue to show Loomis at a very low risk of containing a
 19 disadvantaged community or issues of health and equity that would cause
 20 environmental justice disparities. Detailed CalEnviroScreen data is shown in Table
 21 9-1 below:

Table 9-1. CalEnviroScreen 3.0 and Draft 4.0 Data for Loomis				
	CalEnviroScreen 3.0		Draft CalEnviroScreen 4.0	
	Loomis North of I-80 ¹	Loomis South of I-80 ²	Loomis North of I-80 ¹	Loomis South of I-80 ²
Population	6,536	6,970	7,962	8,183
CalEnviroScreen percentile	15-20%	5-10%	13%	16%
Pollution Burden Percentile	33%	30%	24%	35%
Population Characteristics Percentile	15%	5%	12%	12%

ENVIRONMENTAL JUSTICE

Table 9-1. CalEnviroScreen 3.0 and Draft 4.0 Data for Loomis				
	CalEnviroScreen 3.0		Draft CalEnviroScreen 4.0	
	Loomis North of I-80¹	Loomis South of I-80²	Loomis North of I-80¹	Loomis South of I-80²
Pollution Exposures				
Ozone	74%	74%	71%	72%
PM 2.5	18%	18%	10%	10%
Diesel Particulates	27%	13%	41%	19%
Pesticides	33%	34%	25%	41%
Toxic Releases	11%	11%	12%	12%
Traffic	51%	41%	41%	39%
Drinking Water	5%	10%	0%	32%
Lead from Housing	N/A	N/A	17%	10%
Environmental Effects				
Cleanup Sites	85%	90%	91%	94%
Groundwater Threats	67%	48%	72%	61%
Hazardous Waste	26%	9%	0%	0%
Impaired Water	0%	29%	0%	34%
Solid Waste	39%	51%	40%	52%
Sensitive Populations				
Asthma	18%	8%	16%	10%
Low Birth Weight	12%	3%	5%	26%
Cardiovascular Rate	25%	13%	48%	28%
Socioeconomic Factors				
Education	13%	14%	25%	14%
Linguistic Isolation	0%	5%	0%	3%

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Table 9-1. CalEnviroScreen 3.0 and Draft 4.0 Data for Loomis				
	CalEnviroScreen 3.0		Draft CalEnviroScreen 4.0	
	Loomis North of I-80¹	Loomis South of I-80²	Loomis North of I-80¹	Loomis South of I-80²
Poverty	12%	16%	17%	22%
Unemployment	74%	66%	53%	44%
Housing Burden	66%	25%	32%	49%
Age Profile				
0-10	12%	10%	17%	12.6%
11-64	74%	73%	67.3%	68.3%
65+	13%	17%	15.7%	19%
Race/Ethnicity				
White	83%	85%	80.1%	83.8%
Hispanic	9%	7%	8%	4.3%
Asian American	3%	3%	4%	4.4%
Native American	1%	1%	<1%	<1%
African American	1%	1%	1.6%	2%
Other	4%	3%	6.3%	5.2%

Source: CalEnviroScreen 3.0, June 2018, (<https://oehha.maps.arcgis.com/>) accessed September 2020.

CalEnviroScreen 4.0, February 2021, (<https://oehha.ca.gov/calenviroscreen/report/draft-calenviroscreen-40>) accessed May 2020.

Notes:

1. Census Tract 6061021203; includes land outside of the Town limit, including the northern portion of Rocklin, and portions of the County between Penryn and Loomis

2. Census Tract 6061020602; includes land outside of the Town limit including portions of Rocklin east of Sierra College Boulevard and portions of the County west of Auburn Folsom Road and south of Gilardi Road.

1

- 2 There are 13 indicators related to pollution and eight indicators related to
 3 population characteristics or other health and social vulnerabilities. The percentages
 4 shown per indicator reveal the location's ranking in terms of hazard or vulnerability.
 5 Higher percentages reveal higher potential risk, while low percentages reveal no or

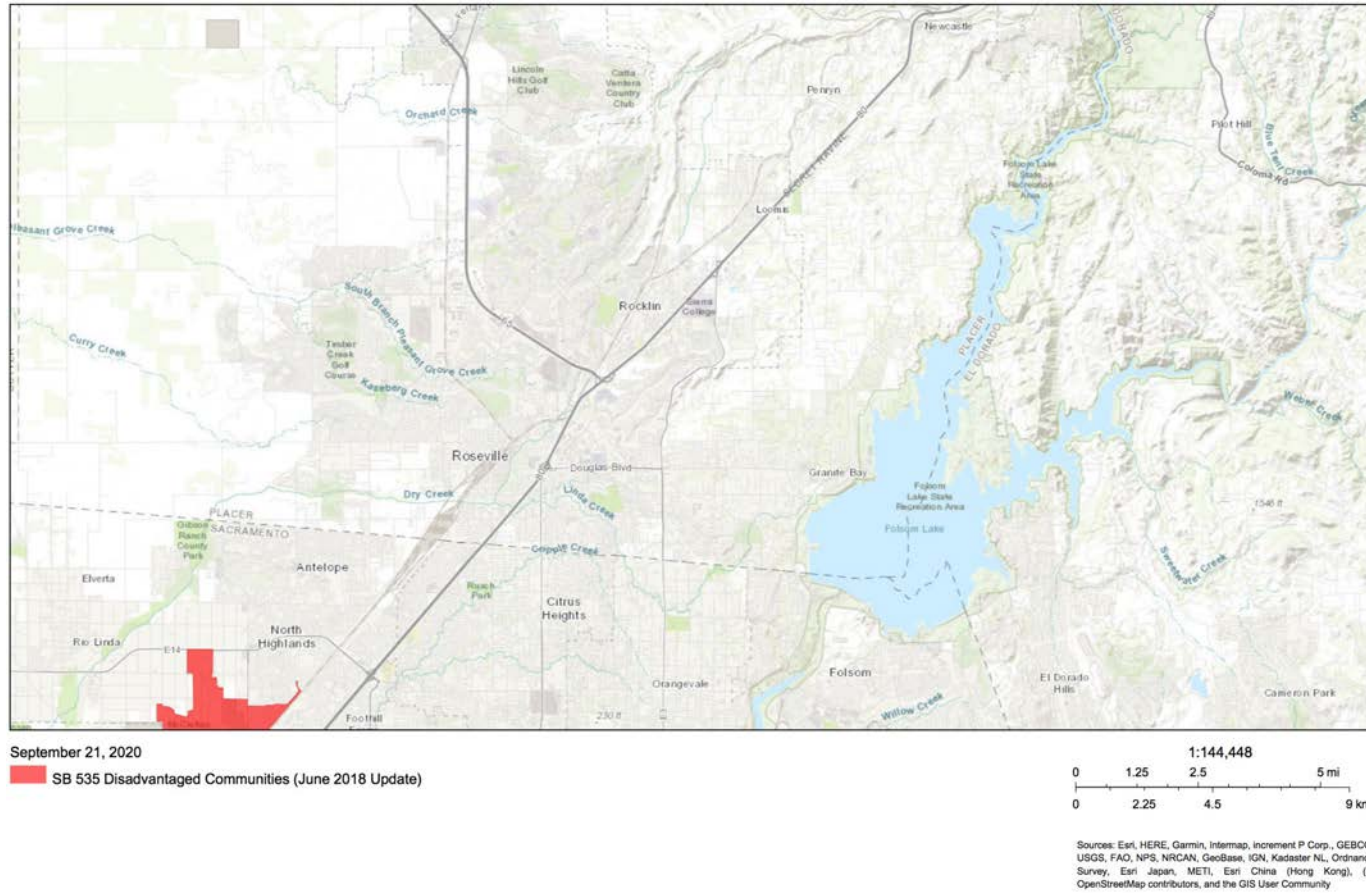
ENVIRONMENTAL JUSTICE

1 low potential to occur. As shown in the data, Loomis and the surrounding area have
2 an overall very low potential for issues of environmental justice to occur. While
3 some indicator percentages are at the higher end of the spectrum, such as for toxic
4 cleanups or ozone, other indicators were very low or zero, such as linguistic
5 isolation, toxic releases, drinking water, asthma, or low birth weight.

6 Factors that exceeded 50 percent included: ozone for which the entire region is not
7 within ozone pollutant attainment levels; traffic under the 3.0 assessment only for
8 the area north of I-80; cleanup sites that include sites that have been cleaned and
9 cleanup cases closed; groundwater threats which includes leaking underground
10 storage tanks that have been addressed and are closed as well as potential for leaks
11 into open canals and waterways; solid waste, which includes the closed dump site
12 outside of the Town limit but within the census tract area for Loomis;
13 unemployment, which decreased under the 4.0 assessment; and housing burden
14 under 3.0 for the area north of I-80. It is important to note that the assessment uses
15 census tracts that are not confined to Town limits that can affect the percentiles as
16 cleanup sites and other factors outside the Town are applied. The Town is not able
17 to control the census tract boundaries or how CalEPA chooses to assess areas and
18 their boundaries, and therefore must work within these parameters to address the
19 Town's response to ensuring an equitably healthy community.

20 The CalEPA map of disadvantaged communities based on the CalEnviroScreen data
21 in Table 9-1 shows no disadvantaged communities within Loomis or Placer County,
22 as depicted on Figure 9-1, (CalEPA Office of Environmental Health Hazard
23 Assessment, SB 535 Disadvantaged Communities, <https://oehha.maps.arcgis.com>,
24 accessed September 21, 2020).

1 **Figure 9-1. SB 535 Disadvantaged Communities**



2

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1

2

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Chapter

10

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Draft

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Appendix

A

ACOUSTIC TERMINOLOGY

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Appendix A: Acoustical Terminology

Acoustics	The science of sound.
Ambient Noise	The distinctive acoustical characteristics of a given space consisting of all noise sources audible at that location. In many cases, the term ambient is used to describe an existing or pre-project condition such as the setting in an environmental noise study.
ASTC	Apparent Sound Transmission Class. Similar to STC but includes sound from flanking paths and correct for room reverberation. A larger number means more attenuation. The scale, like the decibel scale for sound, is logarithmic.
Attenuation	The reduction of an acoustic signal.
A-Weighting	A frequency-response adjustment of a sound level meter that conditions the output signal to approximate human response.
Decibel or dB	Fundamental unit of sound, A Bell is defined as the logarithm of the ratio of the sound pressure squared over the reference pressure squared. A Decibel is one-tenth of a Bell.
CNEL	Community Noise Equivalent Level. Defined as the 24-hour average noise level with noise occurring during evening hours (7 - 10 p.m.) weighted by +5 dBA and nighttime hours weighted by +10 dBA.
DNL	See definition of Ldn.
IIC	Impact Insulation Class. An integer-number rating of how well a building floor attenuates impact sounds, such as footsteps. A larger number means more attenuation. The scale, like the decibel scale for sound, is logarithmic.
Frequency	The measure of the rapidity of alterations of a periodic signal, expressed in cycles per second or hertz (Hz).
Ldn	Day/Night Average Sound Level. Similar to CNEL but with no evening weighting.
Leq	Equivalent or energy-averaged sound level.
Lmax	The highest root-mean-square (RMS) sound level measured over a given period of time.
L(n)	The sound level exceeded a described percentile over a measurement period. For instance, an hourly L50 is the sound level exceeded 50% of the time during the one-hour period.
Loudness	A subjective term for the sensation of the magnitude of sound.
NIC	Noise Isolation Class. A rating of the noise reduction between two spaces. Similar to STC but includes sound from flanking paths and no correction for room reverberation.
NNIC	Normalized Noise Isolation Class. Similar to NIC but includes a correction for room reverberation.
Noise	Unwanted sound.
NRC	Noise Reduction Coefficient. NRC is a single-number rating of the sound-absorption of a material equal to the arithmetic mean of the sound-absorption coefficients in the 250, 500, 1000, and 2,000 Hz octave frequency bands rounded to the nearest multiple of 0.05. It is a representation of the amount of sound energy absorbed upon striking a particular surface. An NRC of 0 indicates perfect reflection; an NRC of 1 indicates perfect absorption.
RT60	The time it takes reverberant sound to decay by 60 dB once the source has been removed.
Sabin	The unit of sound absorption. One square foot of material absorbing 100% of incident sound has an absorption of 1 Sabin.
SEL	Sound Exposure Level. SEL is a rating, in decibels, of a discrete event, such as an aircraft flyover or train pass by, that compresses the total sound energy into a one-second event.
SPC	Speech Privacy Class. SPC is a method of rating speech privacy in buildings. It is designed to measure the degree of speech privacy provided by a closed room, indicating the degree to which conversations occurring within are kept private from listeners outside the room.
STC	Sound Transmission Class. STC is an integer rating of how well a building partition attenuates airborne sound. It is widely used to rate interior partitions, ceilings/floors, doors, windows and exterior wall configurations. The STC rating is typically used to rate the sound transmission of a specific building element when tested in laboratory conditions where flanking paths around the assembly don't exist. A larger number means more attenuation. The scale, like the decibel scale for sound, is logarithmic.
Threshold of Hearing	The lowest sound that can be perceived by the human auditory system, generally considered to be 0 dB for persons with perfect hearing.
Threshold of Pain	Approximately 120 dB above the threshold of hearing.
Impulsive	Sound of short duration, usually less than one second, with an abrupt onset and rapid decay.
Simple Tone	Any sound which can be judged as audible as a single pitch or set of single pitches.

Appendix

B

CONTINUOUS AND SHORT-TERM
AMBIENT NOISE MEASUREMENT
RESULTS

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Appendix B: Continuous and Short-Term Ambient Noise Measurement Results



Appendix B1: Continuous Noise Monitoring Results

Date	Time	Measured Level, dBA			
		L _{eq}	L _{max}	L ₅₀	L ₉₀
Wednesday, July 15, 2020	16:00	62	85	55	48
Wednesday, July 15, 2020	17:00	60	74	54	48
Wednesday, July 15, 2020	18:00	82	114	55	49
Wednesday, July 15, 2020	19:00	72	102	56	51
Wednesday, July 15, 2020	20:00	67	99	55	50
Wednesday, July 15, 2020	21:00	79	110	53	51
Wednesday, July 15, 2020	22:00	56	79	52	50
Wednesday, July 15, 2020	23:00	54	71	51	46
Thursday, July 16, 2020	0:00	51	67	49	43
Thursday, July 16, 2020	1:00	50	71	45	42
Thursday, July 16, 2020	2:00	51	75	46	43
Thursday, July 16, 2020	3:00	51	69	47	43
Thursday, July 16, 2020	4:00	56	71	55	54
Thursday, July 16, 2020	5:00	57	75	55	51
Thursday, July 16, 2020	6:00	61	73	59	53
Thursday, July 16, 2020	7:00	62	77	59	55
Thursday, July 16, 2020	8:00	61	75	59	55
Thursday, July 16, 2020	9:00	61	83	57	53
Thursday, July 16, 2020	10:00	61	78	57	52
Thursday, July 16, 2020	11:00	70	101	55	51
Thursday, July 16, 2020	12:00	59	80	54	50
Thursday, July 16, 2020	13:00	78	110	55	50
Thursday, July 16, 2020	14:00	79	110	54	48
Thursday, July 16, 2020	15:00	64	93	55	49

Statistics	Leq	Lmax	L50	L90
Day Average	75	93	55	51
Night Average	56	72	51	47
Day Low	59	74	53	48
Day High	82	114	59	55
Night Low	50	67	45	42
Night High	61	79	59	54
Ldn	73	Day %	99	
CNEL	74	Night %	1	

Site: LT-1

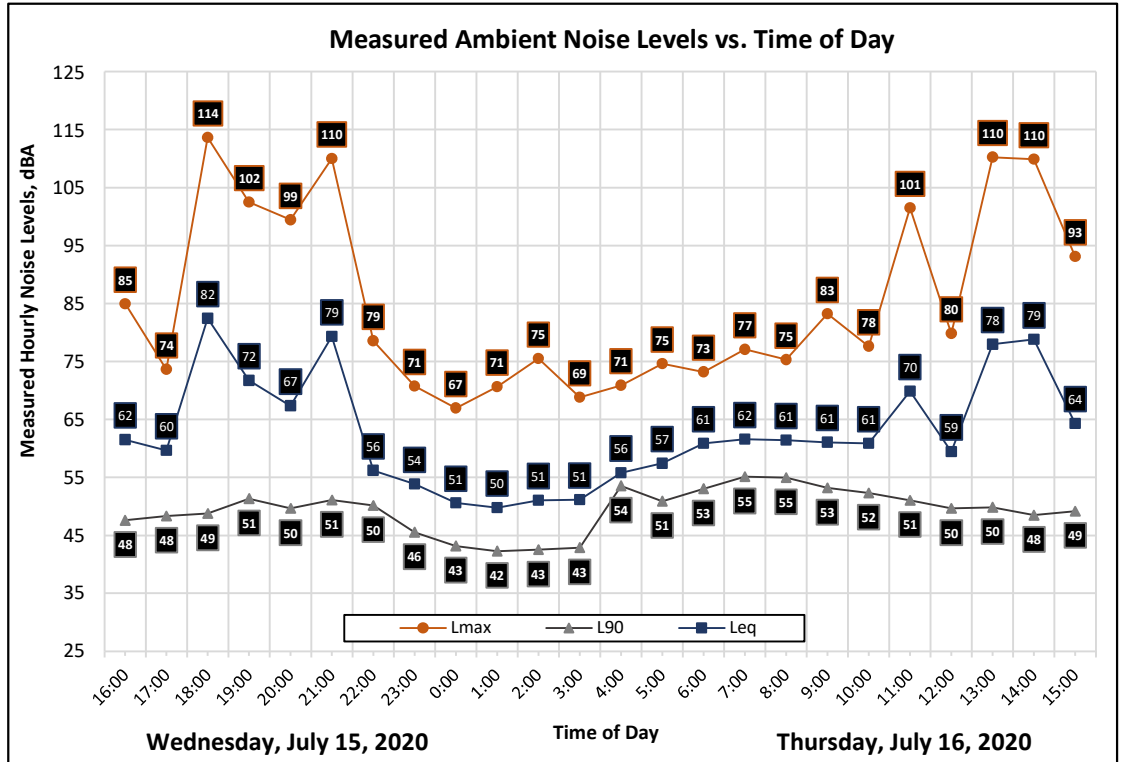
Project: Town of Loomis General Plan Update

Meter: LDL 820-2

Location: UPRR at Webb St.

Calibrator: CAL200

Coordinates: 38.8229149°, -121.1937365°



Appendix B2: Continuous Noise Monitoring Results

Date	Time	Measured Level, dBA			
		L _{eq}	L _{max}	L ₅₀	L ₉₀
Wednesday, July 15, 2020	16:00	51	80	40	38
Wednesday, July 15, 2020	17:00	42	63	40	38
Wednesday, July 15, 2020	18:00	54	80	42	40
Wednesday, July 15, 2020	19:00	61	86	43	41
Wednesday, July 15, 2020	20:00	47	64	45	43
Wednesday, July 15, 2020	21:00	49	65	45	42
Wednesday, July 15, 2020	22:00	44	59	43	42
Wednesday, July 15, 2020	23:00	64	87	43	42
Thursday, July 16, 2020	0:00	43	53	42	41
Thursday, July 16, 2020	1:00	61	87	42	41
Thursday, July 16, 2020	2:00	44	57	42	40
Thursday, July 16, 2020	3:00	42	50	41	40
Thursday, July 16, 2020	4:00	65	87	42	40
Thursday, July 16, 2020	5:00	63	86	45	43
Thursday, July 16, 2020	6:00	55	85	45	44
Thursday, July 16, 2020	7:00	68	90	47	45
Thursday, July 16, 2020	8:00	49	73	46	43
Thursday, July 16, 2020	9:00	47	65	45	42
Thursday, July 16, 2020	10:00	47	70	43	41
Thursday, July 16, 2020	11:00	47	69	41	39
Thursday, July 16, 2020	12:00	47	64	42	39
Thursday, July 16, 2020	13:00	46	67	42	39
Thursday, July 16, 2020	14:00	46	62	42	40
Thursday, July 16, 2020	15:00	43	59	42	40

Statistics	Leq	Lmax	L50	L90
Day Average	58	70	43	41
Night Average	60	73	43	41
Day Low	42	59	40	38
Day High	68	90	47	45
Night Low	42	50	41	40
Night High	65	87	45	44
Ldn	66	Day %		47
CNEL	67	Night %		53

Site: LT-2

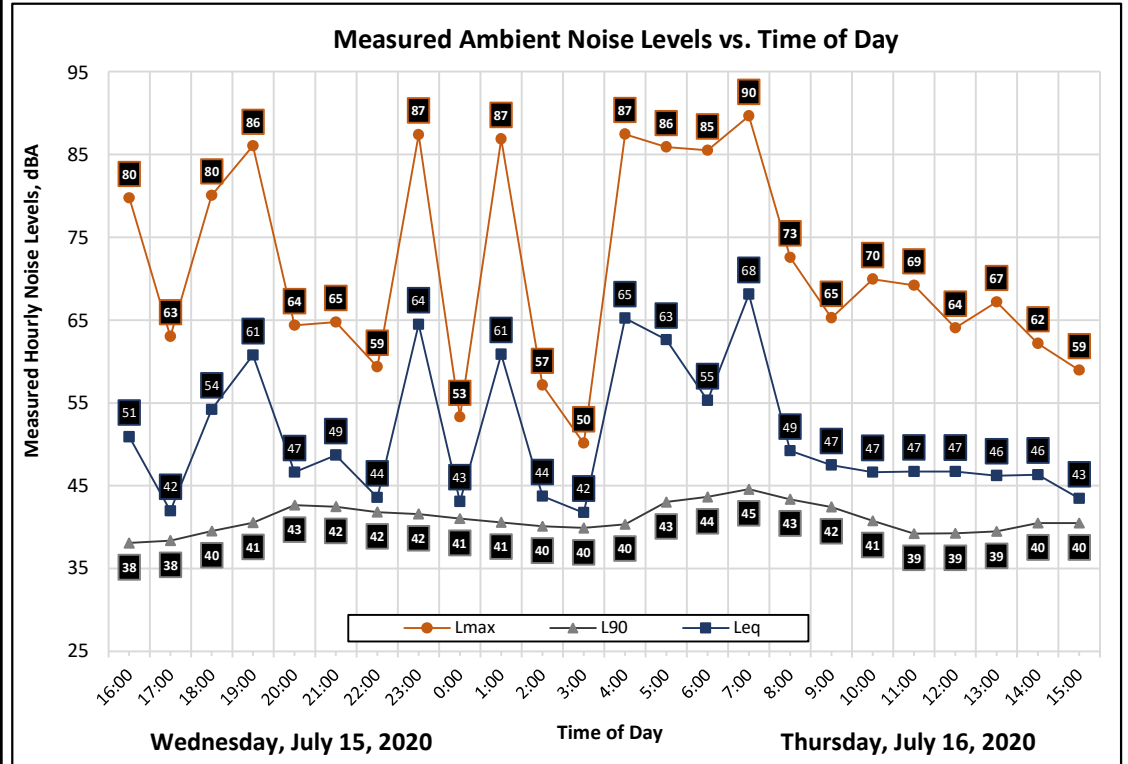
Project: Town of Loomis General Plan Update

Meter: LDL 820-1

Location: UPRR at Gayaldo Park

Calibrator: CAL200

Coordinates: 38.8071039°, -121.2277083°

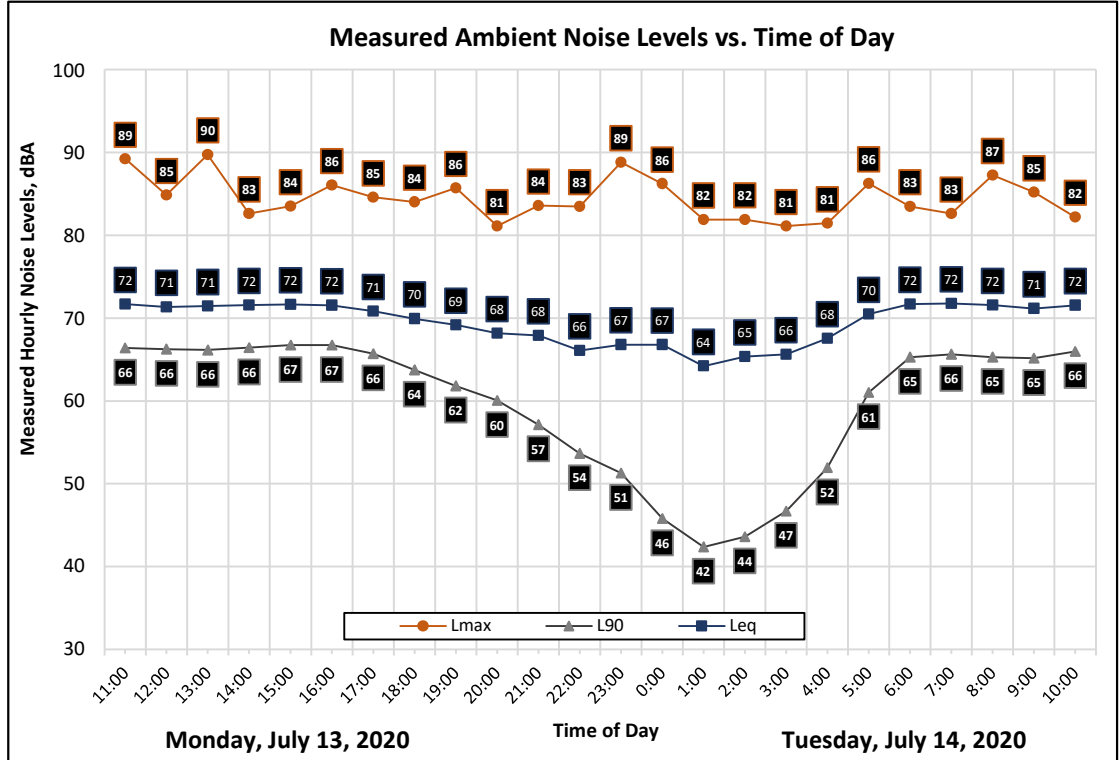


Appendix B3: Continuous Noise Monitoring Results

Date	Time	Measured Level, dBA			
		L _{eq}	L _{max}	L ₅₀	L ₉₀
Monday, July 13, 2020	11:00	72	89	70	66
Monday, July 13, 2020	12:00	71	85	70	66
Monday, July 13, 2020	13:00	71	90	70	66
Monday, July 13, 2020	14:00	72	83	70	66
Monday, July 13, 2020	15:00	72	84	70	67
Monday, July 13, 2020	16:00	72	86	70	67
Monday, July 13, 2020	17:00	71	85	70	66
Monday, July 13, 2020	18:00	70	84	69	64
Monday, July 13, 2020	19:00	69	86	67	62
Monday, July 13, 2020	20:00	68	81	66	60
Monday, July 13, 2020	21:00	68	84	65	57
Monday, July 13, 2020	22:00	66	83	62	54
Monday, July 13, 2020	23:00	67	89	61	51
Tuesday, July 14, 2020	0:00	67	86	59	46
Tuesday, July 14, 2020	1:00	64	82	55	42
Tuesday, July 14, 2020	2:00	65	82	56	44
Tuesday, July 14, 2020	3:00	66	81	58	47
Tuesday, July 14, 2020	4:00	68	81	62	52
Tuesday, July 14, 2020	5:00	70	86	68	61
Tuesday, July 14, 2020	6:00	72	83	70	65
Tuesday, July 14, 2020	7:00	72	83	70	66
Tuesday, July 14, 2020	8:00	72	87	70	65
Tuesday, July 14, 2020	9:00	71	85	70	65
Tuesday, July 14, 2020	10:00	72	82	70	66

Statistics	Leq	Lmax	L50	L90
Day Average	71	85	69	65
Night Average	68	84	61	51
Day Low	68	81	65	57
Day High	72	90	70	67
Night Low	64	81	55	42
Night High	72	89	70	65
Ldn	75	Day %		77
CNEL	75	Night %		23

Site: LT-3
 Project: Town of Loomis General Plan Update
 Meter: LDL 812-1
 Location: Interstate 80
 Calibrator: CAL200
 Coordinates: 38.8163334°, -121.1891026°



Appendix B4: Continuous Noise Monitoring Results

Date	Time	Measured Level, dBA			
		L _{eq}	L _{max}	L ₅₀	L ₉₀
Monday, July 13, 2020	13:00	60	74	58	54
Monday, July 13, 2020	14:00	60	75	58	54
Monday, July 13, 2020	15:00	64	83	58	54
Monday, July 13, 2020	16:00	61	77	58	54
Monday, July 13, 2020	17:00	60	80	58	53
Monday, July 13, 2020	18:00	59	75	57	51
Monday, July 13, 2020	19:00	59	79	57	51
Monday, July 13, 2020	20:00	58	77	56	50
Monday, July 13, 2020	21:00	57	76	54	48
Monday, July 13, 2020	22:00	55	73	52	46
Monday, July 13, 2020	23:00	53	72	48	45
Tuesday, July 14, 2020	0:00	51	68	46	43
Tuesday, July 14, 2020	1:00	50	73	44	42
Tuesday, July 14, 2020	2:00	49	69	43	42
Tuesday, July 14, 2020	3:00	53	76	43	40
Tuesday, July 14, 2020	4:00	55	76	47	41
Tuesday, July 14, 2020	5:00	59	78	55	48
Tuesday, July 14, 2020	6:00	62	84	59	53
Tuesday, July 14, 2020	7:00	66	90	60	54
Tuesday, July 14, 2020	8:00	62	79	59	55
Tuesday, July 14, 2020	9:00	60	73	58	54
Tuesday, July 14, 2020	10:00	60	77	58	53
Tuesday, July 14, 2020	11:00	66	93	58	54
Tuesday, July 14, 2020	12:00	61	85	58	53

Statistics	Leq	Lmax	L50	L90
Day Average	62	80	58	53
Night Average	56	74	48	45
Day Low	57	73	54	48
Day High	66	93	60	55
Night Low	49	68	43	40
Night High	62	84	59	53
Ldn	64	Day %		86
CNEL	64	Night %		14

Site: LT-4

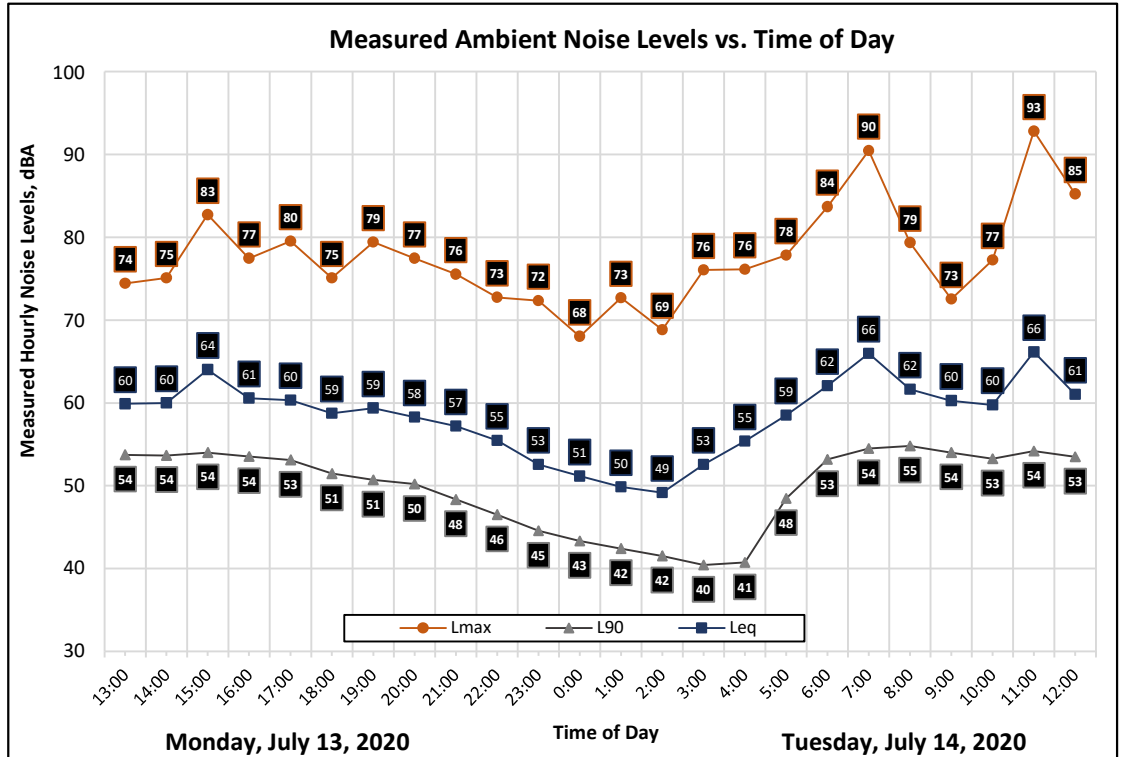
Project: Town of Loomis General Plan Update

Meter: LDL 812-2

Location: Sierra College Boulevard

Calibrator: CAL200

Coordinates: 38.8114304°, -121.2059388°



Appendix B5 : Short Term Noise Monitoring Results

Site: ST-1

Project: Town of Loomis General Plan

Meter: LDL 831-3

Location: H. Clarke Powers Elementary School

Calibrator: CAL200

Coordinates: 38.8309759°, -121.2012289°

Start: 2020-07-13 11:31:11

Stop: 2020-07-13 11:41:11

SLM: Model 831

Serial: 1329

Measurement Results, dBA

Duration: 0:10

L_{eq} : 57

L_{max} : 73

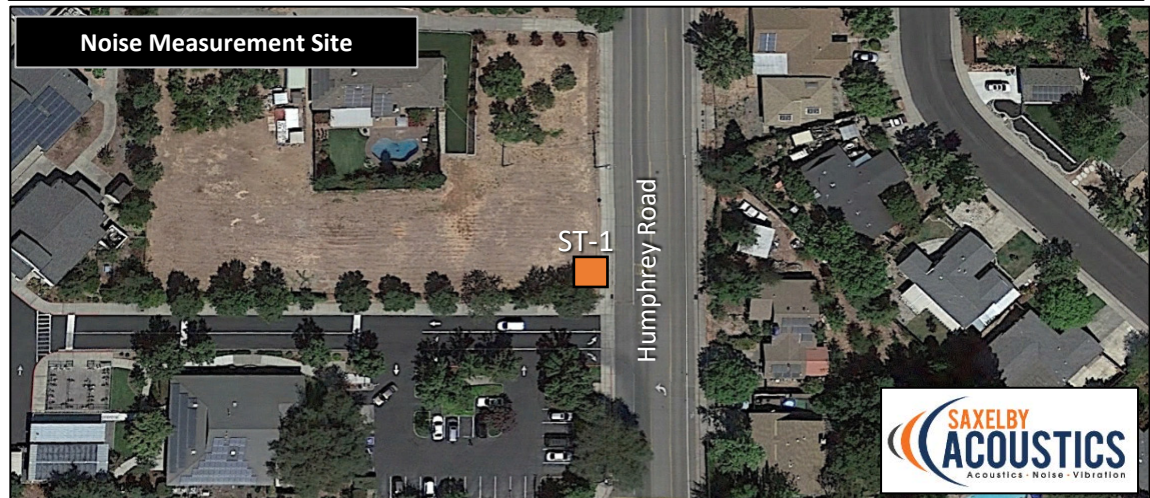
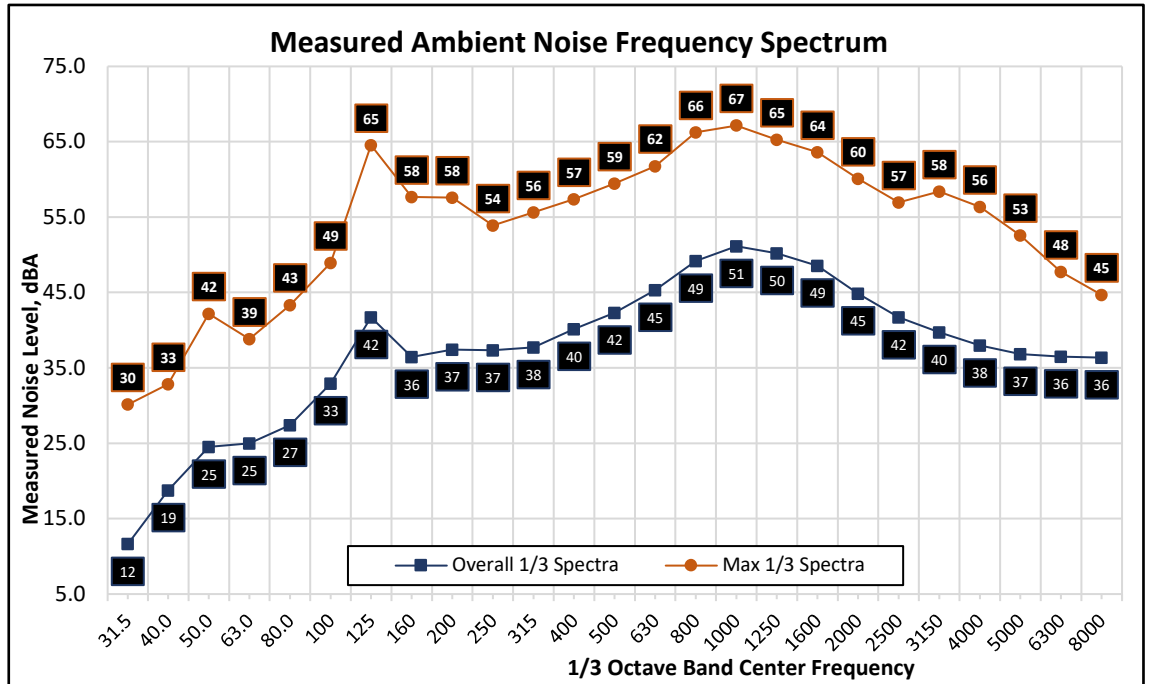
L_{min} : 37

L_{50} : 42

L_{90} : 38

Notes

Primary noise source is Humphrey Ave.



Appendix B6 : Short Term Noise Monitoring Results

Site: ST-2

Project: Town of Loomis General Plan

Meter: LDL 831-3

Location: Del Oro High School

Calibrator: CAL200

Coordinates: 38.8310516°, -121.1855356°

Start: 2020-07-13 11:09:07

Stop: 2020-07-13 11:19:07

SLM: Model 831

Serial: 1329

Measurement Results, dBA

Duration: 0:10

L_{eq} : 67

L_{max} : 83

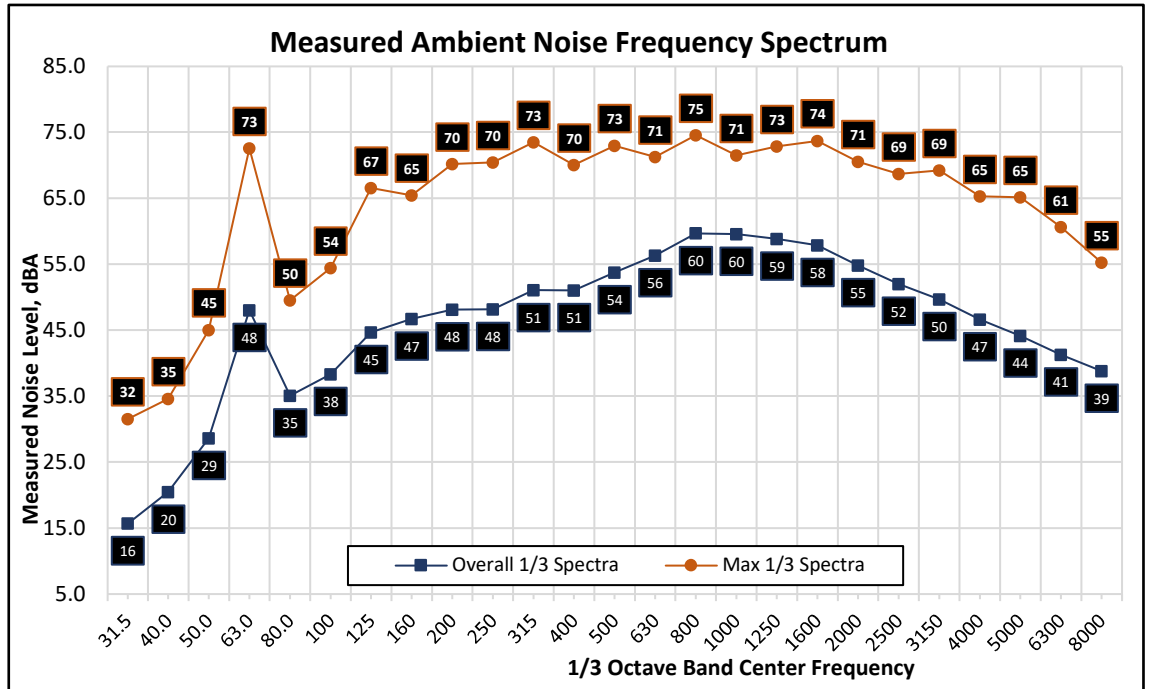
L_{min} : 42

L_{50} : 59

L_{90} : 47

Notes

Primary noise source is traffic on Taylor Road.



Appendix B7 : Short Term Noise Monitoring Results

Site: ST-3

Project: Town of Loomis General Plan

Meter: LDL 831-3

Location: Sierra College Blvd. and King Rd.

Calibrator: CAL200

Coordinates: 38.8251090°, -121.2172326°

Start: 2020-07-13 11:52:00

Stop: 2020-07-13 12:02:00

SLM: Model 831

Serial: 1329

Measurement Results, dBA

Duration: 0:10

L_{eq} : 71

L_{max} : 82

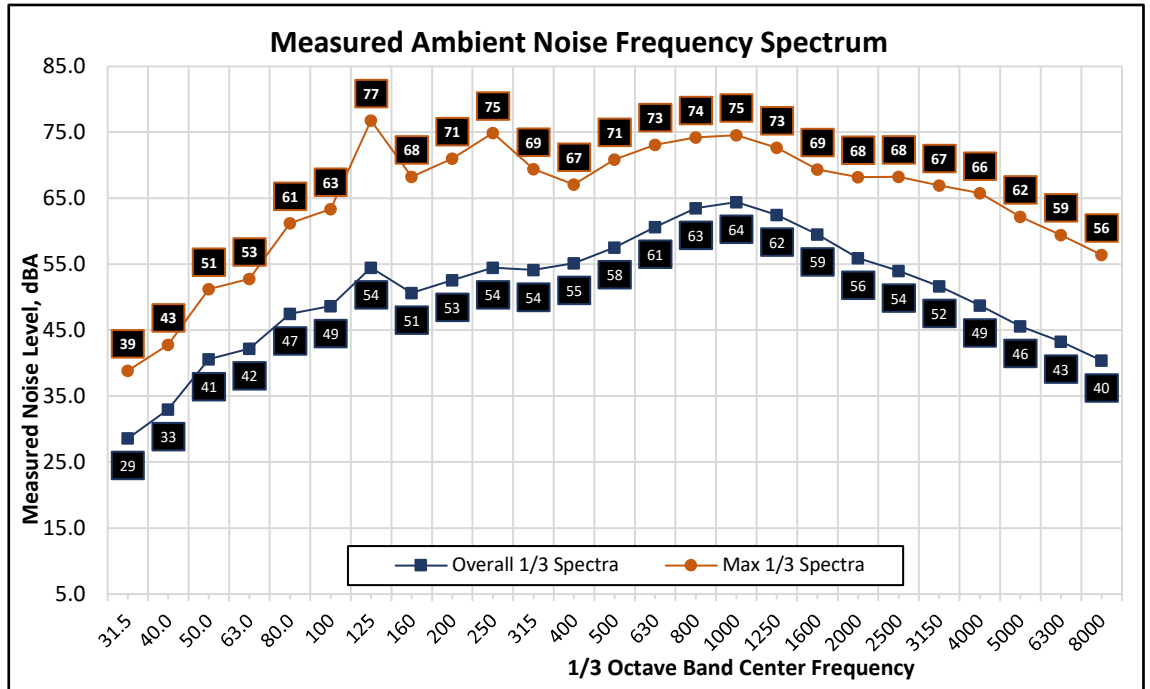
L_{min} : 50

L_{50} : 67

L_{90} : 59

Notes

Primary noise source is Sierra College Blvd. Train horn audible in background.



Appendix B8 : Short Term Noise Monitoring Results

Site: ST-4

Project: Town of Loomis General Plan

Meter: LDL 831-3

Location: Saunders Rd.

Calibrator: CAL200

Coordinates: 38.8214278°, -121.2035081°

Start: 2020-07-13 12:10:18

Stop: 2020-07-13 12:20:18

SLM: Model 831

Serial: 1329

Measurement Results, dBA

Duration: 0:10

L_{eq} : 54

L_{max} : 72

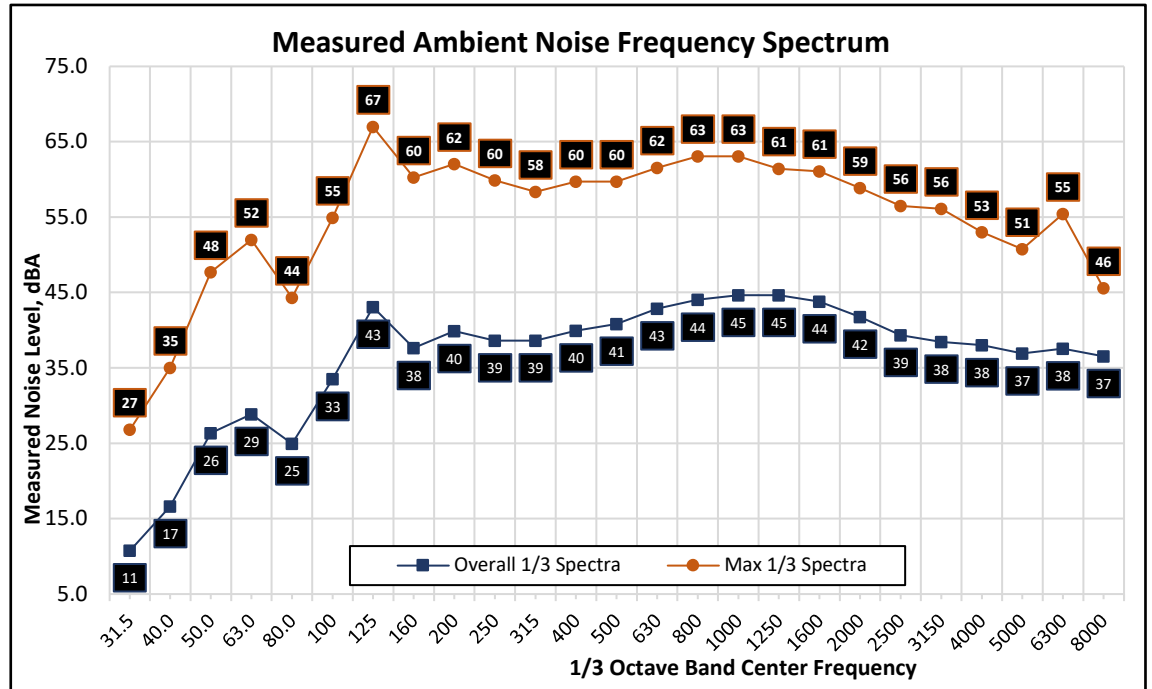
L_{min} : 37

L_{50} : 42

L_{90} : 39

Notes

Background noise due to Sierra College Blvd. / Taylor Road.
Natural sounds such as birds and insects. Lmax due to passing mail truck on Saunders Rd.



Appendix B9 : Short Term Noise Monitoring Results

Site: ST-5

Project: Town of Loomis General Plan

Meter: LDL 831-3

Location: Barton Road - Indian Creek Country Club

Calibrator: CAL200

Coordinates: 38.8034354°, -121.1889527°

Start: 2020-07-13 09:41:41

Stop: 2020-07-13 09:51:41

SLM: Model 831

Serial: 1329

Measurement Results, dBA

Duration: 0:10

L_{eq} : 66

L_{max} : 82

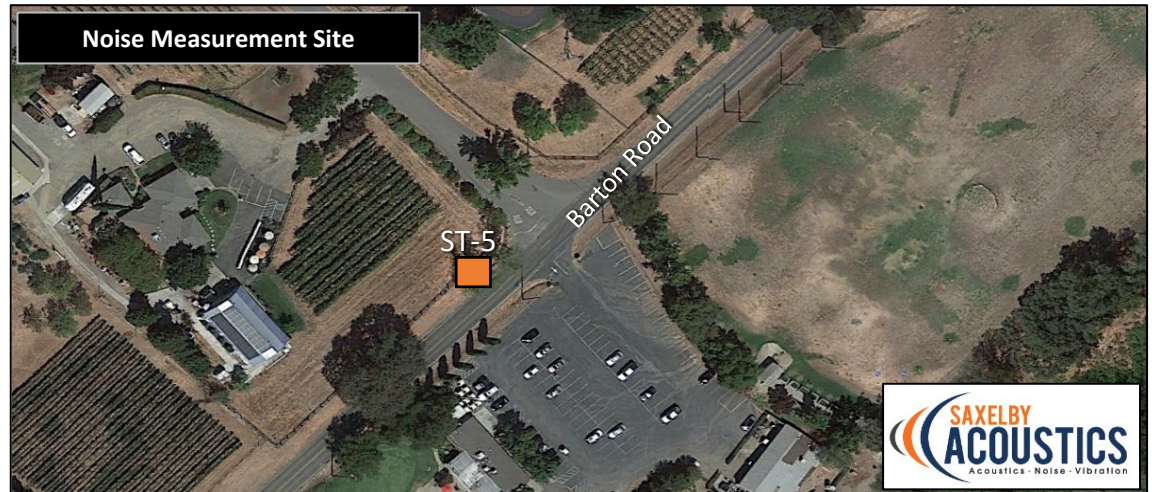
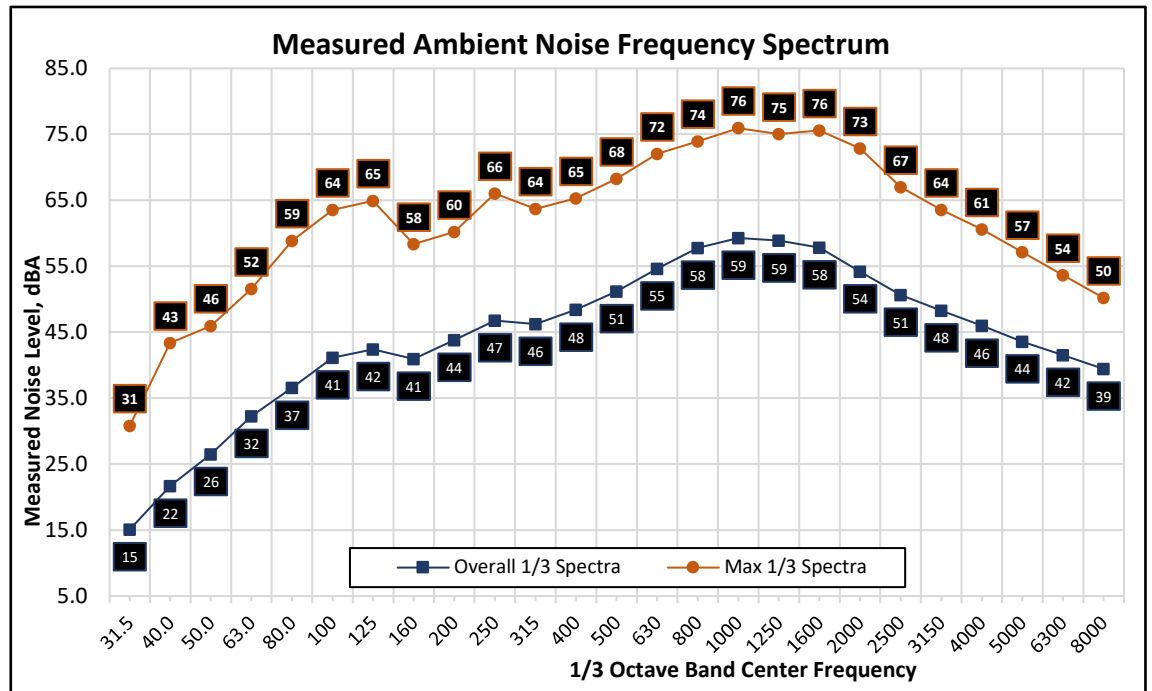
L_{min} : 41

L_{50} : 53

L_{90} : 47

Notes

Primary noise source is traffic on Barton Road. Secondary noise sources include activity at the Indian Creek Driving Range, HVAC noise from the Secret Ravine Winery, and natural sounds such as bird and insect noise.



Appendix B10 : Short Term Noise Monitoring Results

Site: ST-6

Project: Town of Loomis General Plan

Meter: LDL 831-3

Location: Barton Rd. and Wells Ave.

Calibrator: CAL200

Coordinates: 38.7849071°, -121.1919246°

Start: 2020-07-13 09:19:08

Stop: 2020-07-13 09:29:08

SLM: Model 831

Serial: 1329

Measurement Results, dBA

Duration: 0:10

L_{eq}: 70

L_{max}: 83

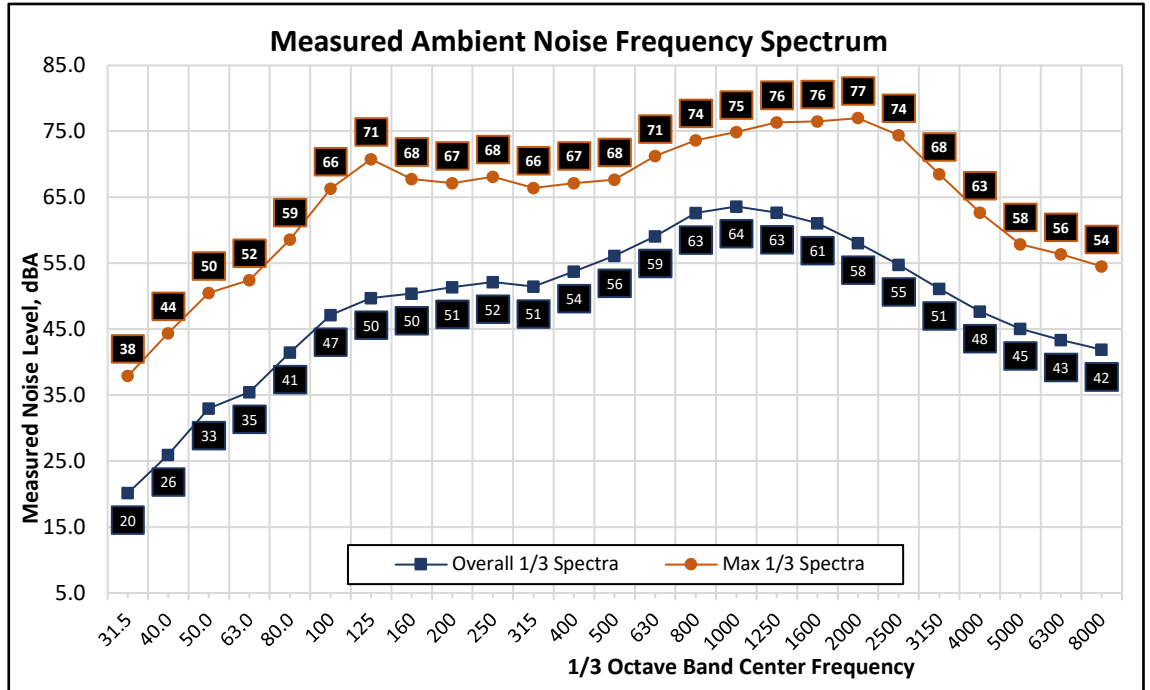
L_{min}: 47

L₅₀: 65

L₉₀: 53

Notes

Primary noise source is Barton Road. Secondary noise source is Wells Ave.



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Appendix

C

MARKET CAPTURE/LEAKAGE
ANALYSIS

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CAPTURE/LEAKAGE ANALYSIS

Table C-1: Estimated Households in Trade Areas						
Trade Areas	2016	2020	2025	2030	2035	2040
Town of Loomis	2,302	2,418	2,543	2,663	2,780	2,822
Loomis Rural Area	2,706	2,793	2,939	3,142	3,344	3,515
Granite Bay	7,506	7,716	8,064	8,340	8,625	9,065
Rocklin	22,458	24,415	26,530	28,555	30,531	30,925
Lincoln	18,112	19,605	21,217	22,762	24,269	25,116
Roseville	50,179	54,169	58,479	62,608	66,635	69,678
Western Placer Total	103,263	111,115	119,772	128,070	136,185	141,120

Source: SACOG 2020 MTP/SCS, ACS, AECOM

Loomis Rural Area is comprised of the SACOG Regional Analysis District excluding the jurisdiction of the Town of Loomis. Granite Bay area and Loomis Rural Area data is estimated by AECOM; Rocklin, Lincoln, Roseville, and Town of Loomis are jurisdictions in SACOG data

CAPTURE/LEAKAGE ANALYSIS

Table C-2: Estimated Median Household Income (In constant 2018 \$)

Trade Areas	2016 ¹	2020	2025	2030	2035	2040
Town of Loomis	\$70,671	\$68,384	\$74,510	\$77,750	\$79,714	\$81,239
Loomis Rural Area	\$101,879	\$98,582	\$107,413	\$112,083	\$114,915	\$117,113
Granite Bay	\$132,034	\$127,761	\$139,207	\$145,259	\$148,929	\$151,777
Rocklin	\$97,508	\$94,353	\$102,805	\$107,275	\$109,985	\$112,089
Lincoln	\$81,417	\$78,782	\$85,840	\$89,572	\$91,835	\$93,592
Roseville	\$84,105	\$81,383	\$88,674	\$92,529	\$94,867	\$96,682

Source: ACS, Caltrans Placer County Economic Forecast, ESRI Business Analyst, AECOM

¹ 2016 household median income based on 2014-2018 American Community Survey (ACS).
Loomis Rural Area is comprised of the SACOG Regional Analysis District excluding the jurisdiction of the Town of Loomis.

Table C-3: Estimated Total Income (In constant 2018 \$)

Trade Areas	2016 ¹	2020	2025	2030	2035	2040
Town of Loomis	\$162,684,642	\$165,344,658	\$189,486,104	\$207,049,222	\$221,605,175	\$229,255,533
Loomis Rural Area	\$275,659,652	\$275,338,498	\$315,687,929	\$352,132,416	\$384,322,888	\$411,627,230
Granite Bay	\$991,065,501	\$985,805,515	\$1,122,566,120	\$1,211,443,151	\$1,284,541,305	\$1,375,801,950
Rocklin	\$2,189,834,664	\$2,303,635,607	\$2,727,393,706	\$3,063,269,193	\$3,357,957,094	\$3,466,343,023
Lincoln	\$1,474,624,704	\$1,544,501,401	\$1,821,299,696	\$2,038,860,574	\$2,228,747,362	\$2,350,645,567
Roseville	\$4,220,304,795	\$4,408,413,452	\$5,185,554,269	\$5,793,059,097	\$6,321,470,011	\$6,736,573,804
Total	\$9,314,173,958	\$9,683,039,132	\$11,361,987,824	\$12,665,813,653	\$13,798,643,835	\$14,570,247,108

Source: SACOG 2020 MTP/SCS, ACS, Caltrans Placer County Economic Forecast, ESRI Business Analyst, AECOM

¹ 2016 household median income based on 2014-2018 ACS. Loomis Rural Area is comprised of the SACOG Regional Analysis District excluding the jurisdiction of the Town of Loomis.

CAPTURE/LEAKAGE ANALYSIS

Table C-4: Estimated Demand by Retail Sales Category Town of Loomis (In constant 2018 \$)

Retail Sales Category	% of Total Income	2016	2020	2025	2030	2035	2040
Clothing and Clothing Accessories Stores	3.10%	\$5,048,813	\$5,131,364	\$5,880,579	\$6,425,639	\$6,877,373	\$7,114,797
General Merchandise Stores	2.65%	\$4,311,400	\$4,381,895	\$5,021,682	\$5,487,132	\$5,872,888	\$6,075,634
Food and Beverage Stores	7.52%	\$12,232,540	\$12,432,551	\$14,247,788	\$15,568,390	\$16,662,877	\$17,238,121
Food Services and Drinking Places	6.37%	\$10,359,094	\$10,528,473	\$12,065,701	\$13,184,049	\$14,110,913	\$14,598,056
Home Furnishings and Appliance Stores	3.94%	\$6,409,656	\$6,514,459	\$7,465,614	\$8,157,588	\$8,731,082	\$9,032,500
Building Material and Garden Equipment and Supplies Dealers	1.50%	\$2,436,558	\$2,476,398	\$2,837,968	\$3,101,015	\$3,319,022	\$3,433,603
Motor Vehicle and Parts Dealers	5.32%	\$8,647,364	\$8,788,754	\$10,071,972	\$11,005,525	\$11,779,234	\$12,185,883
Gasoline Stations	3.29%	\$5,345,514	\$5,432,917	\$6,226,160	\$6,803,251	\$7,281,532	\$7,532,909
Other Retail Group	3.72%	\$6,045,849	\$6,144,703	\$7,041,872	\$7,694,570	\$8,235,513	\$8,519,823

CAPTURE/LEAKAGE ANALYSIS

Total	37.40 %	\$60,836,787	\$61,831,514	\$70,859,337	\$77,427,158	\$82,870,434	\$85,731,326
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Source: Bureau of Labor Statistics, SACOG 2020 MTP/SCS, ACS, Caltrans Placer County Economic Forecast, ESRI Business Analyst, AECOM

CAPTURE/LEAKAGE ANALYSIS

Table C-5: Estimated Demand by Retail Sales Category Loomis Rural Area (In constant 2018 \$)

Retail Sales Category	% of Total Income	2016	2020	2025	2030	2035	2040
Clothing and Clothing Accessories Stores	3.10%	\$8,554,919	\$8,544,952	\$9,797,170	\$10,928,202	\$11,927,212	\$12,774,585
General Merchandise Stores	2.65%	\$7,305,417	\$7,296,906	\$8,366,230	\$9,332,066	\$10,185,165	\$10,908,773
Food and Beverage Stores	7.52%	\$20,727,327	\$20,703,179	\$23,737,122	\$26,477,446	\$28,897,904	\$30,950,964
Food Services and Drinking Places	6.37%	\$17,552,881	\$17,532,431	\$20,101,718	\$22,422,354	\$24,472,112	\$26,210,741
Home Furnishings and Appliance Stores	3.94%	\$10,860,789	\$10,848,136	\$12,437,874	\$13,873,760	\$15,142,041	\$16,217,812
Building Material and Garden Equipment and Supplies Dealers	1.50%	\$4,128,606	\$4,123,796	\$4,728,117	\$5,273,952	\$5,756,075	\$6,165,017
Motor Vehicle and Parts Dealers	5.32%	\$14,652,454	\$14,635,383	\$16,780,123	\$18,717,299	\$20,428,356	\$21,879,695
Gasoline Stations	3.29%	\$9,057,662	\$9,047,109	\$10,372,916	\$11,570,414	\$12,628,133	\$13,525,302
Other Retail Group	3.72%	\$10,244,340	\$10,232,405	\$11,731,910	\$13,086,297	\$14,282,591	\$15,297,303
Total	37.40%	\$103,084,393	\$102,964,296	\$118,053,180	\$131,681,790	\$143,719,588	\$153,930,192

Source: Bureau of Labor Statistics, SACOG 2020 MTP/SCS, ACS, Caltrans Placer County Economic Forecast, ESRI Business Analyst, AECOM

Loomis Rural Area is comprised of the SACOG Regional Analysis District excluding the jurisdiction of the Town of Loomis.

CAPTURE/LEAKAGE ANALYSIS

Table C-6: Estimated Demand by Retail Sales Category Granite Bay (In constant 2018 \$)

Retail Sales Category	% of Total Income	2016	2020	2025	2030	2035	2040
Clothing and Clothing Accessories Stores	3.10%	\$30,757,076	\$30,593,836	\$34,838,113	\$37,596,354	\$39,864,908	\$42,697,123
General Merchandise Stores	2.65%	\$26,264,804	\$26,125,406	\$29,749,779	\$32,105,161	\$34,042,378	\$36,460,929
Food and Beverage Stores	7.52%	\$74,519,932	\$74,124,424	\$84,407,691	\$91,090,509	\$96,586,886	\$103,448,932
Food Services and Drinking Places	6.37%	\$63,107,004	\$62,772,070	\$71,480,427	\$77,139,753	\$81,794,345	\$87,605,450
Home Furnishings and Appliance Stores	3.94%	\$39,047,256	\$38,840,017	\$44,228,285	\$47,729,975	\$50,609,989	\$54,205,591
Building Material and Garden Equipment and Supplies Dealers	1.50%	\$14,843,372	\$14,764,592	\$16,812,881	\$18,144,008	\$19,238,813	\$20,605,641
Motor Vehicle and Parts Dealers	5.32%	\$52,679,242	\$52,399,652	\$59,669,046	\$64,393,229	\$68,278,699	\$73,129,581
Gasoline Stations	3.29%	\$32,564,562	\$32,391,729	\$36,885,427	\$39,805,760	\$42,207,629	\$45,206,284
Other Retail Group	3.72%	\$36,830,967	\$36,635,490	\$41,717,924	\$45,020,862	\$47,737,408	\$51,128,928
Total	37.40%	\$370,614,216	\$368,647,216	\$419,789,572	\$453,025,611	\$480,361,054	\$514,488,458

Source: Bureau of Labor Statistics, SACOG 2020 MTP/SCS, ACS, Caltrans Placer County Economic Forecast, ESRI Business Analyst, AECOM

CAPTURE/LEAKAGE ANALYSIS

Table C-7: Estimated Demand by Retail Sales Category Rocklin (In constant 2018 \$)

Retail Sales Category	% of Total Income	2016	2020	2025	2030	2035	2040
Clothing and Clothing Accessories Stores	3.10%	\$67,960,101	\$71,491,840	\$84,642,898	\$95,066,576	\$104,212,024	\$107,575,711
General Merchandise Stores	2.65%	\$58,034,084	\$61,049,989	\$72,280,250	\$81,181,482	\$88,991,177	\$91,863,576
Food and Beverage Stores	7.52%	\$164,657,461	\$173,214,351	\$205,077,457	\$230,332,516	\$252,490,610	\$260,640,336
Food Services and Drinking Places	6.37%	\$139,439,730	\$146,686,109	\$173,669,295	\$195,056,474	\$213,820,996	\$220,722,570
Home Furnishings and Appliance Stores	3.94%	\$86,277,885	\$90,761,559	\$107,457,319	\$120,690,567	\$132,301,055	\$136,571,382
Building Material and Garden Equipment and Supplies Dealers	1.50%	\$32,797,559	\$34,501,977	\$40,848,681	\$45,879,150	\$50,292,745	\$51,916,061
Motor Vehicle and Parts Dealers	5.32%	\$116,398,796	\$122,447,788	\$144,972,289	\$162,825,464	\$178,489,348	\$184,250,510
Gasoline Stations	3.29%	\$71,953,879	\$75,693,166	\$89,617,066	\$100,653,307	\$110,336,202	\$113,897,561
Other Retail Group	3.72%	\$81,380,825	\$85,610,010	\$101,358,132	\$113,840,272	\$124,791,759	\$128,819,705
Total	37.40%	\$818,900,321	\$861,456,789	\$1,019,923,385	\$1,145,525,809	\$1,255,725,918	\$1,296,257,412

CAPTURE/LEAKAGE ANALYSIS

Source: Bureau of Labor Statistics, SACOG 2020 MTP/SCS, ACS, Caltrans Placer County Economic Forecast, ESRI Business Analyst, AECOM

CAPTURE/LEAKAGE ANALYSIS

Table C-8: Estimated Demand by Retail Sales Category Lincoln (In constant 2018 \$)

Retail Sales Category	% of Total Income	2016	2020	2025	2030	2035	2040
Clothing and Clothing Accessories Stores	3.10%	\$45,764,023	\$47,932,601	\$56,522,857	\$63,274,718	\$69,167,731	\$72,950,763
General Merchandise Stores	2.65%	\$39,079,888	\$40,931,732	\$48,267,324	\$54,033,032	\$59,065,332	\$62,295,828
Food and Beverage Stores	7.52%	\$110,879,586	\$116,133,735	\$136,946,679	\$153,305,458	\$167,583,375	\$176,749,112
Food Services and Drinking Places	6.37%	\$93,898,080	\$98,347,543	\$115,972,928	\$129,826,316	\$141,917,532	\$149,679,511
Home Furnishings and Appliance Stores	3.94%	\$58,099,136	\$60,852,226	\$71,757,877	\$80,329,616	\$87,811,017	\$92,613,717
Building Material and Garden Equipment and Supplies Dealers	1.50%	\$22,085,727	\$23,132,284	\$27,277,943	\$30,536,392	\$33,380,362	\$35,206,054
Motor Vehicle and Parts Dealers	5.32%	\$78,382,420	\$82,096,656	\$96,809,634	\$108,373,897	\$118,467,167	\$124,946,562
Gasoline Stations	3.29%	\$48,453,415	\$50,749,433	\$59,844,508	\$66,993,152	\$73,232,478	\$77,237,825
Other Retail Group	3.72%	\$54,801,478	\$57,398,305	\$67,684,960	\$75,770,175	\$82,826,938	\$87,357,041
Total	37.40%	\$551,443,752	\$577,574,515	\$681,084,710	\$762,442,757	\$833,451,932	\$879,036,414

CAPTURE/LEAKAGE ANALYSIS

Source: Bureau of Labor Statistics, SACOG 2020 MTP/SCS, ACS, Caltrans Placer County Economic Forecast, ESRI Business Analyst, AECOM

CAPTURE/LEAKAGE ANALYSIS

Table C-9: Estimated Demand by Retail Sales Category Roseville (In constant 2018 \$)							
Retail Sales Category	% of Total Income	2016	2020	2025	2030	2035	2040
Clothing and Clothing Accessories Stores	3.10%	\$130,974,427	\$136,812,257	\$160,930,319	\$179,783,838	\$196,182,729	\$209,065,207
General Merchandise Stores	2.65%	\$111,844,756	\$116,829,933	\$137,425,395	\$153,525,234	\$167,528,960	\$178,529,867
Food and Beverage Stores	7.52%	\$317,332,027	\$331,476,243	\$389,910,807	\$435,590,147	\$475,322,279	\$506,534,652
Food Services and Drinking Places	6.37%	\$268,731,777	\$280,709,768	\$330,194,922	\$368,878,349	\$402,525,398	\$428,957,513
Home Furnishings and Appliance Stores	3.94%	\$166,276,924	\$173,688,268	\$204,307,048	\$228,242,294	\$249,061,298	\$265,416,084
Building Material and Garden Equipment and Supplies Dealers	1.50%	\$63,208,286	\$66,025,625	\$77,665,007	\$86,763,719	\$94,677,827	\$100,894,913
Motor Vehicle and Parts Dealers	5.32%	\$224,326,706	\$234,325,461	\$275,633,719	\$307,925,121	\$336,012,353	\$358,076,841
Gasoline Stations	3.29%	\$138,671,337	\$144,852,237	\$170,387,633	\$190,349,108	\$207,711,704	\$221,351,240
Other Retail Group	3.72%	\$156,839,186	\$163,829,868	\$192,710,752	\$215,287,454	\$234,924,789	\$250,351,291
Total	37.40%	\$1,578,205,428	\$1,648,549,661	\$1,939,165,603	\$2,166,345,265	\$2,363,947,337	\$2,519,177,609

CAPTURE/LEAKAGE ANALYSIS

Source: Bureau of Labor Statistics, SACOG 2020 MTP/SCS, ACS, Caltrans Placer County Economic Forecast, ESRI Business Analyst, AECOM

CAPTURE/LEAKAGE ANALYSIS

Table C-10: Estimated Total Demand by Retail Sales Category (In constant 2018 \$)

Retail Sales Category	2016	2020	2025	2030	2035	2040
Clothing and Clothing Accessories Stores	\$289,059,358	\$300,506,850	\$352,611,936	\$393,075,326	\$428,231,978	\$452,178,186
General Merchandise Stores	\$246,840,351	\$256,615,862	\$301,110,659	\$335,664,107	\$365,685,900	\$386,134,608
Food and Beverage Stores	\$700,348,873	\$728,084,484	\$854,327,544	\$952,364,467	\$1,037,543,930	\$1,095,562,117
Food Services and Drinking Places	\$593,088,566	\$616,576,394	\$723,484,991	\$806,507,296	\$878,641,296	\$927,773,842
Home Furnishings and Appliance Stores	\$366,971,647	\$381,504,665	\$447,654,016	\$499,023,801	\$543,656,482	\$574,057,087
Building Material and Garden Equipment and Supplies Dealers	\$139,500,108	\$145,024,670	\$170,170,596	\$189,698,237	\$206,664,844	\$218,221,289
Motor Vehicle and Parts Dealers	\$495,086,981	\$514,693,695	\$603,936,783	\$673,240,534	\$733,455,157	\$774,469,072
Gasoline Stations	\$306,046,369	\$318,166,590	\$373,333,710	\$416,174,992	\$453,397,677	\$478,751,121
Other Retail Group	\$346,142,645	\$359,850,781	\$422,245,551	\$470,699,630	\$512,798,998	\$541,474,090
Total	\$3,483,084,897	\$3,621,023,991	\$4,248,875,786	\$4,736,448,390	\$5,160,076,263	\$5,448,621,411

CAPTURE/LEAKAGE ANALYSIS

Source: Bureau of Labor Statistics, SACOG 2020 MTP/SCS, ACS, Caltrans Placer County Economic Forecast, ESRI Business Analyst, AECOM

CAPTURE/LEAKAGE ANALYSIS

Table C-11: Estimated Retail Demand by Trade Area - Year 2020 (In constant 2018 \$)

Retail Sales Category	Town of Loomis	Loomis Rural Area	Granite Bay	Rocklin	Lincoln	Roseville
Clothing and Clothing Accessories Stores	\$5,131,364	\$8,544,952	\$30,593,836	\$71,491,840	\$47,932,601	\$136,812,257
General Merchandise Stores	\$4,381,895	\$7,296,906	\$26,125,406	\$61,049,989	\$40,931,732	\$116,829,933
Food and Beverage Stores	\$12,432,551	\$20,703,179	\$74,124,424	\$173,214,351	\$116,133,735	\$331,476,243
Food Services and Drinking Places	\$10,528,473	\$17,532,431	\$62,772,070	\$146,686,109	\$98,347,543	\$280,709,768
Home Furnishings and Appliance Stores	\$6,514,459	\$10,848,136	\$38,840,017	\$90,761,559	\$60,852,226	\$173,688,268
Building Material and Garden Equipment and Supplies Dealers	\$2,476,398	\$4,123,796	\$14,764,592	\$34,501,977	\$23,132,284	\$66,025,625
Motor Vehicle and Parts Dealers	\$8,788,754	\$14,635,383	\$52,399,652	\$122,447,788	\$82,096,656	\$234,325,461
Gasoline Stations	\$5,432,917	\$9,047,109	\$32,391,729	\$75,693,166	\$50,749,433	\$144,852,237
Other Retail Group	\$6,144,703	\$10,232,405	\$36,635,490	\$85,610,010	\$57,398,305	\$163,829,868
Total	\$61,831,514	\$102,964,296	\$368,647,216	\$861,456,789	\$577,574,515	\$1,648,549,661
Percent of Total Demand	1.71%	2.84%	10.18%	23.79%	15.95%	45.53%

Source: Bureau of Labor Statistics, SACOG 2020 MTP/SCS, ACS, Caltrans Placer County Economic Forecast, ESRI Business Analyst, AECOM

CAPTURE/LEAKAGE ANALYSIS

Table C-12: Estimated Retail Supply by Trade Area - Year 2020 (In constant 2018 \$)

Retail Sales Category	Town of Loomis	Loomis Rural Area	Granite Bay	Rocklin	Lincoln	Roseville	Total
Clothing and Clothing Accessories Stores	\$11,619	\$0	\$2,054,458	\$22,115,110	\$14,290,062	\$405,535,479	\$444,006,728
General Merchandise Stores	\$0	\$2,536,673	\$11,245,916	\$96,772,635	\$38,502,182	\$601,194,394	\$750,251,800
Food and Beverage Stores	\$34,763,233	\$2,711,339	\$62,495,297	\$151,258,794	\$56,182,470	\$463,755,657	\$771,166,790
Food Services and Drinking Places	\$11,886,749	\$2,765,806	\$17,516,771	\$121,450,038	\$64,519,946	\$456,732,491	\$674,871,801
Home Furnishings and Appliance Stores	\$3,924,291	\$1,411,238	\$8,937,838	\$154,292,089	\$5,205,453	\$214,151,582	\$387,922,491
Building Material and Garden Equipment and Supplies Dealers	\$6,470,234	\$1,694,365	\$10,730,976	\$44,536,366	\$62,112,635	\$216,820,024	\$342,364,599
Motor Vehicle and Parts Dealers	\$2,917,790	\$3,411,795	\$0	\$456,525,747	\$9,571,243	\$1,448,736,863	\$1,921,163,438
Gasoline Stations	\$0	\$3,372,828	\$6,408,373	\$108,745,550	\$69,949,175	\$245,949,653	\$434,425,579
Other Retail Group	\$8,244,730	\$5,959,673	\$8,068,281	\$101,275,985	\$27,265,429	\$270,067,195	\$420,881,293
Total	\$68,218,646	\$23,863,716	\$127,457,911	\$1,256,972,314	\$347,598,595	\$4,322,943,338	\$6,147,054,520
Percent of Total Supply	1%	0%	2%	20%	6%	70%	100%

CAPTURE/LEAKAGE ANALYSIS

Source: California Department of Tax and Fee Administration, ESRI Business Analyst, AECOM

Loomis Rural Area is comprised of the SACOG Regional Analysis District excluding the jurisdiction of the Town of Loomis.

Table C-13: Retail Market Estimated Supply vs. Estimated Demand, Town of Loomis (In constant 2018 \$)

Retail Sales Category	Estimated Supply ¹ 2020	Estimated Demand 2020	Demand v. Supply 2020	Estimated Demand 2040	Demand v. Supply 2040
Clothing and Clothing Accessories Stores	\$11,619	\$5,131,364	(\$5,119,745)	\$7,114,797	(\$7,103,178)
General Merchandise Stores	\$0	\$4,381,895	(\$4,381,895)	\$6,075,634	(\$6,075,634)
Food and Beverage Stores	\$34,763,233	\$12,432,551	\$22,330,682	\$17,238,121	\$17,525,112
Food Services and Drinking Places	\$11,886,749	\$10,528,473	\$1,358,276	\$14,598,056	(\$2,711,307)
Home Furnishings and Appliance Stores	\$3,924,291	\$6,514,459	(\$2,590,168)	\$9,032,500	(\$5,108,209)
Building Material and Garden Equipment and Supplies Dealers	\$6,470,234	\$2,476,398	\$3,993,836	\$3,433,603	\$3,036,631
Motor Vehicle and Parts Dealers	\$2,917,790	\$8,788,754	(\$5,870,964)	\$12,185,883	(\$9,268,093)
Gasoline Stations	\$0	\$5,432,917	(\$5,432,917)	\$7,532,909	(\$7,532,909)
Other Retail Group	\$8,244,730	\$6,144,703	\$2,100,027	\$8,519,823	(\$275,093)
Total	\$68,218,646	\$61,831,514	\$6,387,132	\$85,731,326	(\$17,512,680)

Source: California Department of Tax and Fee Administration, Bureau of Labor Statistics, SACOG 2020 MTP/SCS, ACS, Caltrans Placer County Economic Forecast, ESRI Business Analyst, AECOM

CAPTURE/LEAKAGE ANALYSIS

¹ Supply is assumed to remain constant in comparison to both current and future demand.

Table C-14: Retail Market Estimated Supply vs. Estimated Demand, Loomis Rural Area (In constant 2018 \$)					
Retail Sales Category	Estimated Supply ¹ 2020	Estimated Demand 2020	Demand v. Supply 2020	Estimated Demand 2040	Demand v. Supply 2040
Clothing and Clothing Accessories Stores	\$0	\$8,544,952	(\$8,544,952)	\$12,774,585	(\$12,774,585)
General Merchandise Stores	\$2,536,673	\$7,296,906	(\$4,760,233)	\$10,908,773	(\$8,372,100)
Food and Beverage Stores	\$2,711,339	\$20,703,179	(\$17,991,840)	\$30,950,964	(\$28,239,625)
Food Services and Drinking Places	\$2,765,806	\$17,532,431	(\$14,766,625)	\$26,210,741	(\$23,444,935)
Home Furnishings and Appliance Stores	\$1,411,238	\$10,848,136	(\$9,436,898)	\$16,217,812	(\$14,806,574)
Building Material and Garden Equipment and Supplies Dealers	\$1,694,365	\$4,123,796	(\$2,429,431)	\$6,165,017	(\$4,470,653)
Motor Vehicle and Parts Dealers	\$3,411,795	\$14,635,383	(\$11,223,588)	\$21,879,695	(\$18,467,900)
Gasoline Stations	\$3,372,828	\$9,047,109	(\$5,674,281)	\$13,525,302	(\$10,152,475)
Other Retail Group	\$5,959,673	\$10,232,405	(\$4,272,731)	\$15,297,303	(\$9,337,630)
Total	\$23,863,716	\$102,964,296	(\$79,100,580)	\$153,930,192	(\$130,066,476)

CAPTURE/LEAKAGE ANALYSIS

Source: California Department of Tax and Fee Administration, Bureau of Labor Statistics, SACOG 2020 MTP/SCS, ACS, Caltrans Placer County Economic Forecast, ESRI Business Analyst AECOM

¹ Supply is assumed to remain constant in comparison to both current and future demand.
Loomis Rural Area is comprised of the SACOG Regional Analysis District excluding the jurisdiction of the Town of Loomis.

Table C-15: Retail Market Estimated Supply vs. Estimated Demand, Granite Bay (In constant 2018 \$)

Retail Sales Category	Estimated Supply ¹ 2020	Estimated Demand 2020	Demand v. Supply 2020	Estimated Demand 2040	Demand v. Supply 2040
Clothing and Clothing Accessories Stores	\$2,054,458	\$30,593,836	(\$28,539,378)	\$42,697,123	(\$40,642,664)
General Merchandise Stores	\$11,245,916	\$26,125,406	(\$14,879,490)	\$36,460,929	(\$25,215,013)
Food and Beverage Stores	\$62,495,297	\$74,124,424	(\$11,629,127)	\$103,448,932	(\$40,953,635)
Food Services and Drinking Places	\$17,516,771	\$62,772,070	(\$45,255,299)	\$87,605,450	(\$70,088,679)
Home Furnishings and Appliance Stores	\$8,937,838	\$38,840,017	(\$29,902,178)	\$54,205,591	(\$45,267,753)
Building Material and Garden Equipment and Supplies Dealers	\$10,730,976	\$14,764,592	(\$4,033,616)	\$20,605,641	(\$9,874,665)
Motor Vehicle and Parts Dealers	\$0	\$52,399,652	(\$52,399,652)	\$73,129,581	(\$73,129,581)
Gasoline Stations	\$6,408,373	\$32,391,729	(\$25,983,356)	\$45,206,284	(\$38,797,911)
Other Retail Group	\$8,068,281	\$36,635,490	(\$28,567,210)	\$51,128,928	(\$43,060,647)
Total	\$127,457,911	\$368,647,216	(\$241,189,306)	\$514,488,458	(\$387,030,547)

Source: California Department of Tax and Fee Administration, Bureau of Labor Statistics, SACOG 2020 MTP/SCS, ACS, Caltrans Placer County Economic Forecast, ESRI Business Analyst, AECOM

CAPTURE/LEAKAGE ANALYSIS

¹ Supply is assumed to remain constant in comparison to both current and future demand.

Table C-16: Retail Market Estimated Supply vs. Estimated Demand, Rocklin (In constant 2018 \$)

Retail Sales Category	Estimated Supply ¹ 2020	Estimated Demand 2020	Demand v. Supply 2020	Estimated Demand 2040	Demand v. Supply 2040
Clothing and Clothing Accessories Stores	\$22,115,110	\$71,491,840	(\$49,376,730)	\$107,575,711	(\$85,460,601)
General Merchandise Stores	\$96,772,635	\$61,049,989	\$35,722,646	\$91,863,576	\$4,909,059
Food and Beverage Stores	\$151,258,794	\$173,214,351	(\$21,955,557)	\$260,640,336	(\$109,381,542)
Food Services and Drinking Places	\$121,450,038	\$146,686,109	(\$25,236,071)	\$220,722,570	(\$99,272,532)
Home Furnishings and Appliance Stores	\$154,292,089	\$90,761,559	\$63,530,530	\$136,571,382	\$17,720,707
Building Material and Garden Equipment and Supplies Dealers	\$44,536,366	\$34,501,977	\$10,034,389	\$51,916,061	(\$7,379,695)
Motor Vehicle and Parts Dealers	\$456,525,747	\$122,447,788	\$334,077,959	\$184,250,510	\$272,275,237
Gasoline Stations	\$108,745,550	\$75,693,166	\$33,052,384	\$113,897,561	(\$5,152,011)
Other Retail Group	\$101,275,985	\$85,610,010	\$15,665,975	\$128,819,705	(\$27,543,720)
Total	\$1,256,972,314	\$861,456,789	\$395,515,525	\$1,296,257,412	(\$39,285,098)

Source: California Department of Tax and Fee Administration, Bureau of Labor Statistics, SACOG 2020 MTP/SCS, ACS, Caltrans Placer County Economic Forecast, ESRI Business Analyst, AECOM

CAPTURE/LEAKAGE ANALYSIS

¹ Supply is assumed to remain constant in comparison to both current and future demand.

Table C-17: Retail Market Estimated Supply vs. Estimated Demand, Lincoln (In constant 2018 \$)

Retail Sales Category	Estimated Supply ¹ 2020	Estimated Demand 2020	Demand v. Supply 2020	Estimated Demand 2040	Demand v. Supply 2040
Clothing and Clothing Accessories Stores	\$14,290,062	\$47,932,601	(\$33,642,539)	\$72,950,763	(\$58,660,701)
General Merchandise Stores	\$38,502,182	\$40,931,732	(\$2,429,550)	\$62,295,828	(\$23,793,646)
Food and Beverage Stores	\$56,182,470	\$116,133,735	(\$59,951,265)	\$176,749,112	(\$120,566,642)
Food Services and Drinking Places	\$64,519,946	\$98,347,543	(\$33,827,597)	\$149,679,511	(\$85,159,565)
Home Furnishings and Appliance Stores	\$5,205,453	\$60,852,226	(\$55,646,773)	\$92,613,717	(\$87,408,264)
Building Material and Garden Equipment and Supplies Dealers	\$62,112,635	\$23,132,284	\$38,980,351	\$35,206,054	\$26,906,581
Motor Vehicle and Parts Dealers	\$9,571,243	\$82,096,656	(\$72,525,413)	\$124,946,562	(\$115,375,319)
Gasoline Stations	\$69,949,175	\$50,749,433	\$19,199,742	\$77,237,825	(\$7,288,650)
Other Retail Group	\$27,265,429	\$57,398,305	(\$30,132,876)	\$87,357,041	(\$60,091,612)
Total	\$347,598,595	\$577,574,515	(\$229,975,920)	\$879,036,414	(\$531,437,819)

Source: California Department of Tax and Fee Administration, Bureau of Labor Statistics, SACOG 2020 MTP/SCS, ACS, Caltrans Placer County Economic Forecast, ESRI Business Analyst, AECOM

CAPTURE/LEAKAGE ANALYSIS

¹ Supply is assumed to remain constant in comparison to both current and future demand.

Table C-18: Retail Market Estimated Supply vs. Estimated Demand, Roseville (In constant 2018 \$)					
Retail Sales Category	Estimated Supply ¹ 2020	Estimated Demand 2020	Demand v. Supply 2020	Estimated Demand 2040	Demand v. Supply 2040
Clothing and Clothing Accessories Stores	\$405,535,479	\$136,812,257	\$268,723,222	\$209,065,207	\$196,470,272
General Merchandise Stores	\$601,194,394	\$116,829,933	\$484,364,461	\$178,529,867	\$422,664,527
Food and Beverage Stores	\$463,755,657	\$331,476,243	\$132,279,414	\$506,534,652	(\$42,778,995)
Food Services and Drinking Places	\$456,732,491	\$280,709,768	\$176,022,723	\$428,957,513	\$27,774,978
Home Furnishings and Appliance Stores	\$214,151,582	\$173,688,268	\$40,463,314	\$265,416,084	(\$51,264,502)
Building Material and Garden Equipment and Supplies Dealers	\$216,820,024	\$66,025,625	\$150,794,399	\$100,894,913	\$115,925,111
Motor Vehicle and Parts Dealers	\$1,448,736,863	\$234,325,461	\$1,214,411,402	\$358,076,841	\$1,090,660,022
Gasoline Stations	\$245,949,653	\$144,852,237	\$101,097,416	\$221,351,240	\$24,598,413
Other Retail Group	\$270,067,195	\$163,829,868	\$106,237,327	\$250,351,291	\$19,715,904
Total	\$4,322,943,338	\$1,648,549,661	\$2,674,393,677	\$2,519,177,609	\$1,803,765,729

Source: California Department of Tax and Fee Administration, Bureau of Labor Statistics, SACOG 2020 MTP/SCS, ACS, Caltrans Placer County Economic Forecast, ESRI Business Analyst AECOM

¹ Supply is assumed to remain constant in comparison to both current and future demand.

CAPTURE/LEAKAGE ANALYSIS

Table C-19: Retail Market Estimated Supply vs. Estimated Demand Summary by Retail Sales Category (In constant 2018 \$)

Retail Sales Category	Estimated Supply ¹ 2020	Estimated Demand 2020	Surplus/Leakage 2020	Estimated Demand 2040	Surplus/Leakage 2040
Clothing and Clothing Accessories Stores	\$444,006,728	\$300,506,850	\$143,499,878	\$452,178,186	(\$8,171,457)
General Merchandise Stores	\$750,251,800	\$256,615,862	\$493,635,938	\$386,134,608	\$364,117,192
Food and Beverage Stores	\$771,166,790	\$728,084,484	\$43,082,306	\$1,095,562,117	(\$324,395,327)
Food Services and Drinking Places	\$674,871,801	\$616,576,394	\$58,295,407	\$927,773,842	(\$252,902,041)
Home Furnishings and Appliance Stores	\$387,922,491	\$381,504,665	\$6,417,826	\$574,057,087	(\$186,134,596)
Building Material and Garden Equipment and Supplies Dealers	\$342,364,599	\$145,024,670	\$197,339,929	\$218,221,289	\$124,143,310
Motor Vehicle and Parts Dealers	\$1,921,163,438	\$514,693,695	\$1,406,469,743	\$774,469,072	\$1,146,694,366
Gasoline Stations	\$434,425,579	\$318,166,590	\$116,258,989	\$478,751,121	(\$44,325,542)
Other Retail Group	\$420,881,293	\$359,850,781	\$61,030,512	\$541,474,090	(\$120,592,797)
Total	\$6,147,054,520	\$3,621,023,991	\$2,526,030,528	\$5,448,621,411	\$698,433,108

Source: CA Department of Tax and Fee Administration, Bureau of Labor Statistics, SACOG 2020 MTP/SCS, ACS, Caltrans Placer County Economic Forecast, ESRI Business Analyst AECOM

¹ Supply is assumed to remain constant in comparison to both current and future demand.

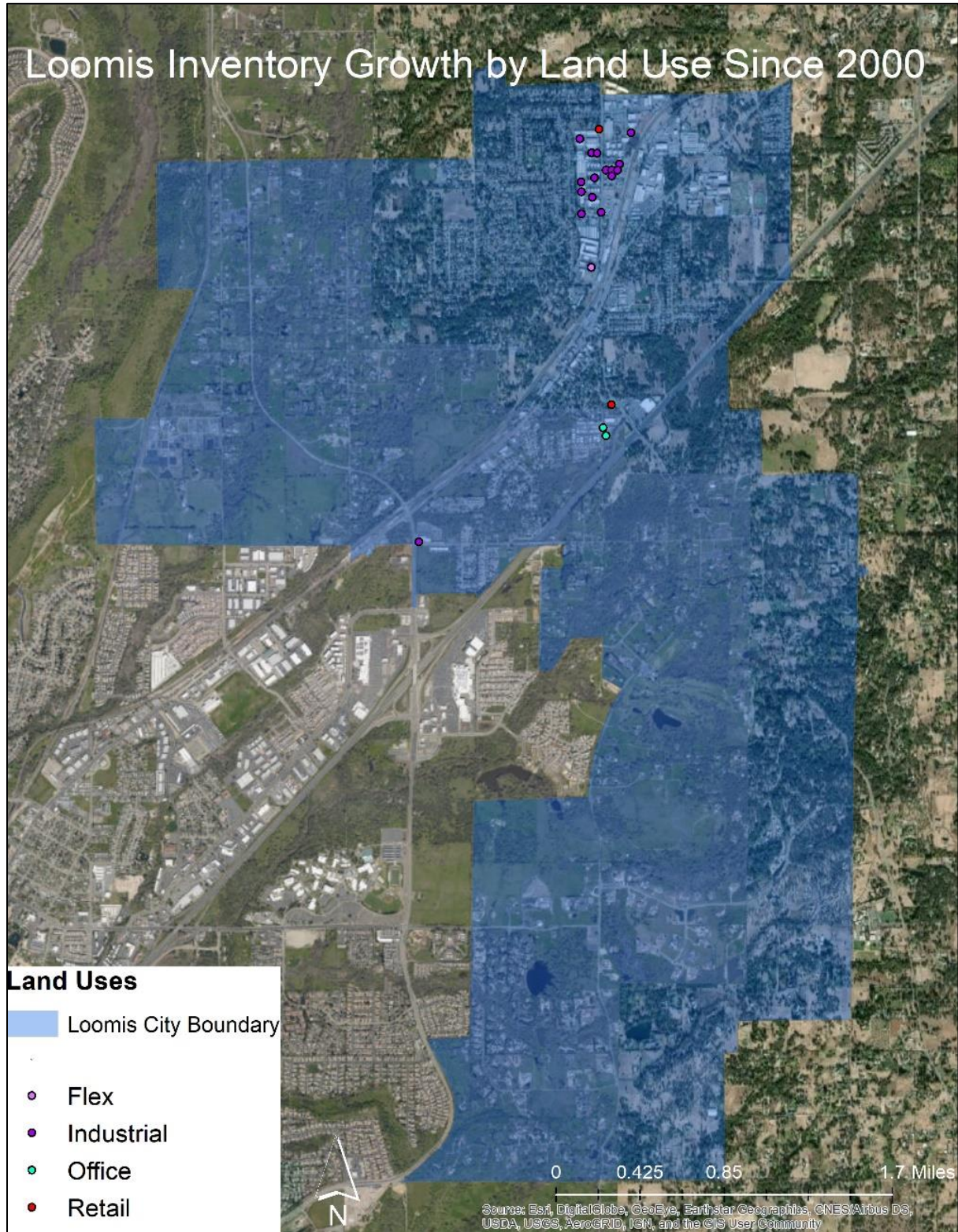
Table C-20: Retail Market Estimated Supply vs. Estimated Demand Summary by Trade Area

Trade Area (In constant 2018 \$)	Estimated Supply ¹ 2020	Estimated Demand 2020	Surplus/Leakage 2020	Estimated Demand 2040	Surplus/Leakage 2040
Town of Loomis	\$68,218,646	\$61,831,514	\$6,387,132	\$85,731,326	(\$17,512,680)
Loomis Rural Area	\$23,863,716	\$102,964,296	(\$79,100,580)	\$153,930,192	(\$130,066,476)
Granite Bay	\$127,457,911	\$368,647,216	(\$241,189,306)	\$514,488,458	(\$387,030,547)
Rocklin	\$1,256,972,314	\$861,456,789	\$395,515,525	\$1,296,257,412	(\$39,285,098)
Lincoln	\$347,598,595	\$577,574,515	(\$229,975,920)	\$879,036,414	(\$531,437,819)
Roseville	\$4,322,943,338	\$1,648,549,661	\$2,674,393,677	\$2,519,177,609	\$1,803,765,729
Total	\$6,147,054,520	\$3,621,023,991	\$2,526,030,528	\$5,448,621,411	\$698,433,108

Source: California Department of Tax and Fee Administration, Bureau of Labor Statistics, SACOG 2020 MTP/SCS, ACS, Caltrans Placer County Economic Forecast, ESRI Business Analyst AECOM

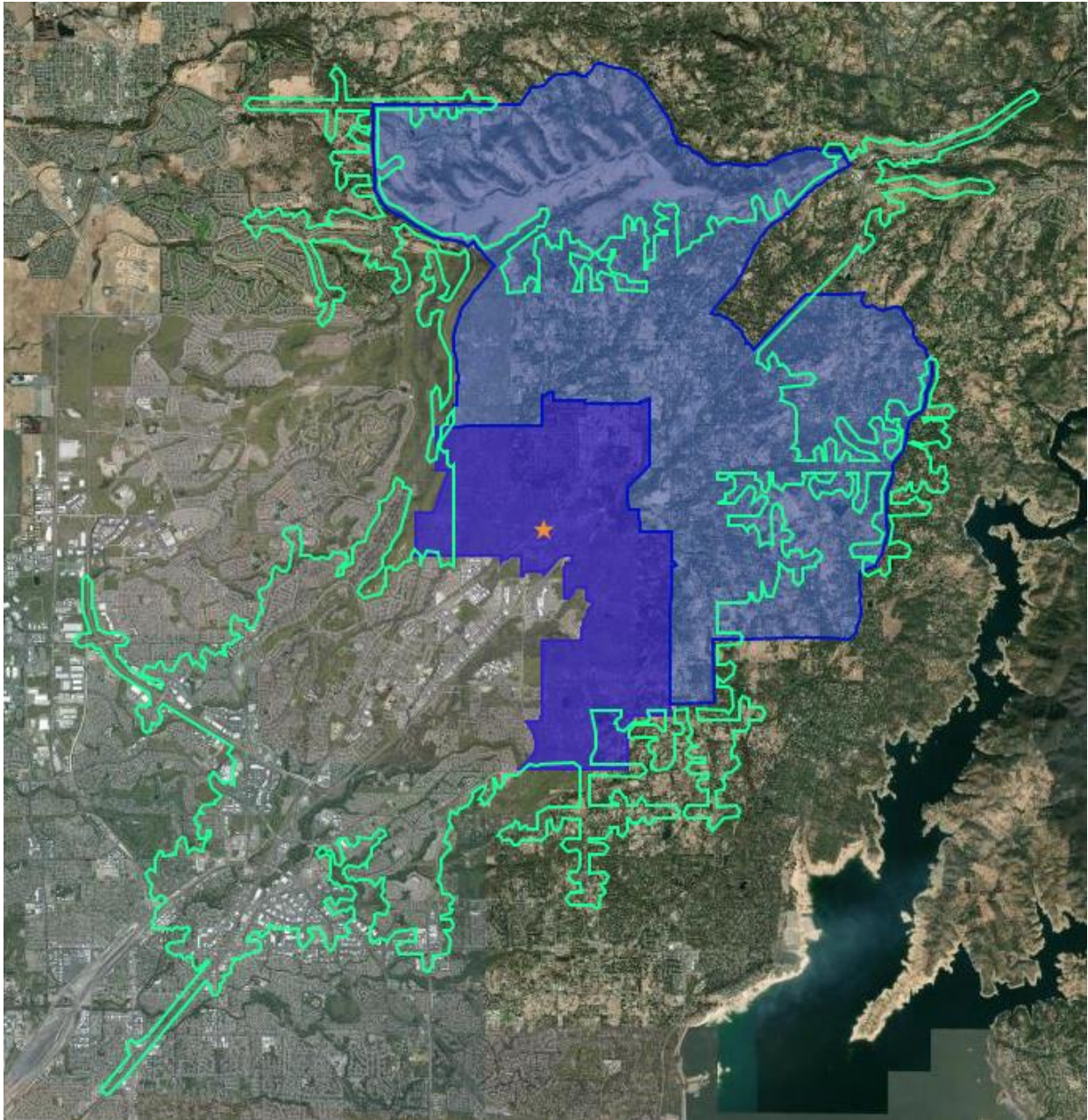
¹ Supply is assumed to remain constant in comparison to both current and future demand. Loomis Rural Area is comprised of the SACOG Regional Analysis District excluding the jurisdiction of the Town of Loomis.

Figure C-1: Land Use Inventory Growth 2000-2020



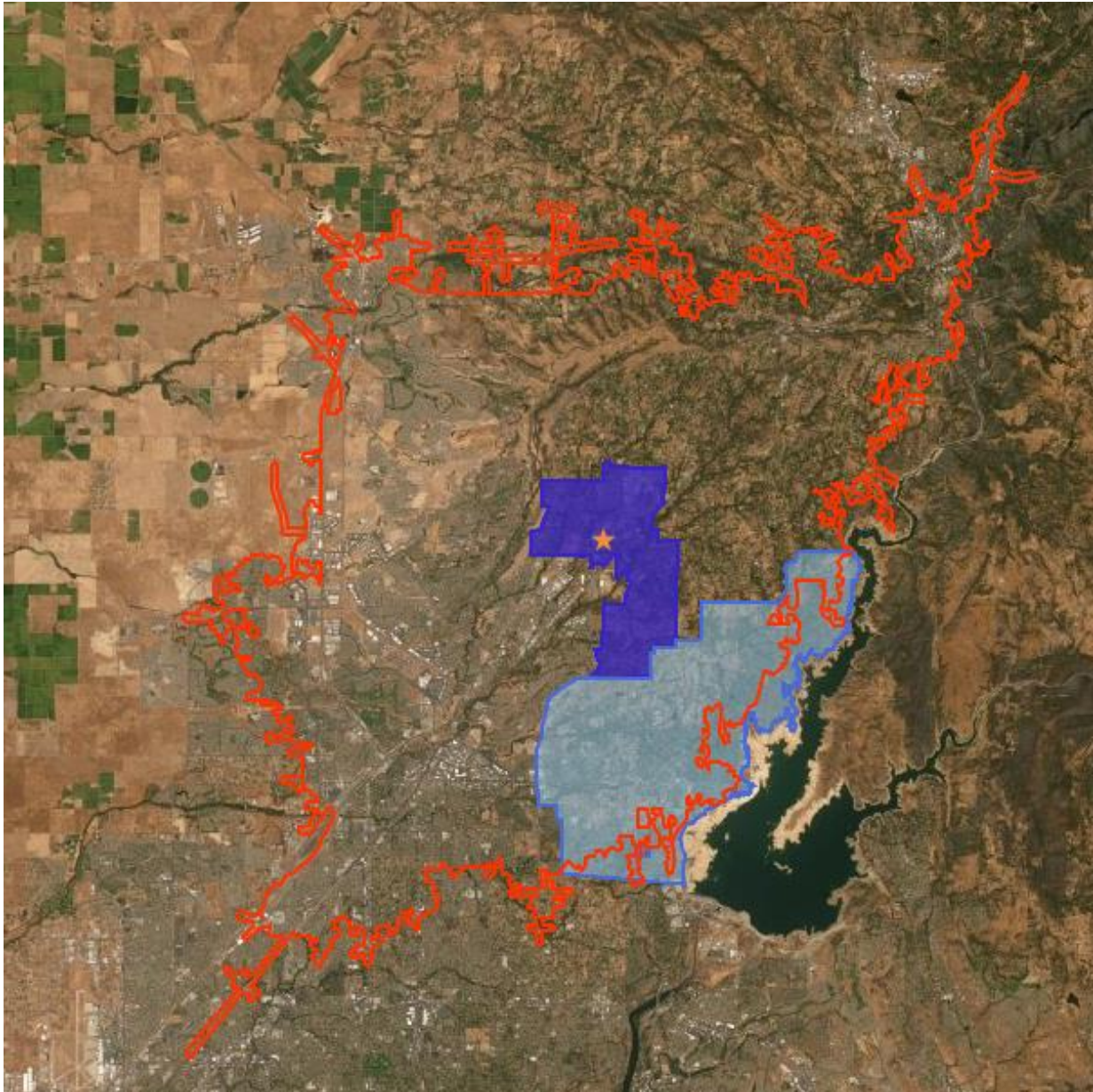
Source: ESRI, 2020; Costar, 2020; AECOM, 2020

Figure C-2: Secondary Retail Market



Source: ESRI, 2020; SACOG, 2020; AECOM, 2020

Figure C-3: Tertiary Retail Market



Source: ESRI, 2020; SACOG, 2020; AECOM, 2020

Appendix

D

MARKET ABSORPTION ANALYSIS

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ABSORPTION ANALYSIS

Table D-1: Town of Loomis Retail Assumptions		
Retail Assumptions	Neighborhood Retail	Other Retail
% Retail Spending by Retail Category	30%	70%
% of Household Income Spent on Retail Category	11%	26%
Floor-to-Area Ratio (FAR)	0.25	0.25
Stabilized Vacancy Rate	10%	10%
Retail Sales per SF	\$225	\$300
Capture Rates:		
Town of Loomis	75%	50%
Loomis Rural Area	0%	40%
Granite Bay	0%	20%
Rocklin	0%	5.0%
Lincoln	0%	5.0%
Roseville	0%	0.0%
Land Uses:		
Neighborhood Commercial	100%	0%
Other Commercial	0%	100.0%

Source: Bureau of Labor Statistics Consumer Expenditure Survey; International Council of Shopping Centers, ESRI Business Analyst, AECOM

Table D-2: Town of Loomis - Future Retail Demand & Absorption						
Future Retail Demand & Absorption	2016-2020	2021-2025	2026-2030	2031-2035	2036-2040	Total
Total Demand for New Homes						
Town of Loomis	116	125	120	117	42	520
Loomis Rural Area	87	146	203	203	170	809
Granite Bay	210	348	276	285	439	1,558
Rocklin	1,957	2,114	2,026	1,976	394	8,467
Lincoln	1,493	1,613	1,545	1,507	847	7,004
Roseville	3,990	4,310	4,129	4,027	3,043	19,499
Total	7,852	8,656	8,298	8,115	4,936	37,857
Average Household Income During Time Interval (2018\$)						
Town of Loomis	\$69,527	\$72,060	\$76,454	\$78,928	\$80,629	
Loomis Rural Area	\$100,230	\$103,881	\$110,215	\$113,782	\$116,234	
Granite Bay	\$129,898	\$134,629	\$142,838	\$147,461	\$150,638	
Rocklin	\$95,930	\$99,424	\$105,487	\$108,901	\$111,247	
Lincoln	\$80,100	\$83,017	\$88,079	\$90,930	\$92,889	
Roseville	\$82,744	\$85,758	\$90,987	\$93,932	\$95,956	
Total Demand for New Retail Space						
Neighborhood Commercial (NC)	0.3	0.3	0.3	0.4	0.1	1.5
Other Commercial	2.5	3.3	3.5	3.5	2.6	15.4
Total Acres	3	4	4	4	3	17

Table D-2: Town of Loomis - Future Retail Demand & Absorption						
Future Retail Demand & Absorption	2016-2020	2021-2025	2026-2030	2031-2035	2036-2040	Total
Source: SACOG 2020 MTP/SCS, US Census Bureau, ACS, Caltrans Placer County Economic Forecast, ESRI Business Analyst, Bureau of Labor Statistics Consumer Expenditure Survey; International Council of Shopping Centers, AECOM						

Table D-3: Description of Employment Categories			
Employment Category	NAICS Codes	SubCodes/Description	Employment Category for Analysis
Education	61	Educational Services (exclude 6115-6117 trade school, education support, include in service)	Education and Government
Food Service	722	7221-7225 (restaurants and bars)	Retail and Food Service
Government	92	Public Administration (exclude 9281 security and information, include in Other)	Education and Government
Industrial	11	Agriculture, Forestry, Fishing and Hunting	Industrial
Industrial	21	Mining, Quarrying, and Oil and Gas Extraction	Industrial
Industrial	22	Utilities	Industrial
Industrial	23	Construction	Industrial
Industrial	31-33	Manufacturing	Industrial
Industrial	42	Wholesale Trade	Industrial
Industrial	48-49	Transportation and Warehousing (exclude 4911 post office, include in service)	Industrial
Industrial	562	562 - (5621 - 5629) included in industrial because uses are administrative for waste, utilities and construction uses.	Industrial
Medical	62	Health Care and Social Assistance (exclude 623-624 nursing and residential care, social service, include in service)	Medical and Service

Table D-3: Description of Employment Categories			
Employment Category	NAICS Codes	SubCodes/Description	Employment Category for Analysis
Office	51	Information	Office
Office	52	Finance and Insurance	Office
Office	53	Real Estate and Rental and Leasing	Office
Office	54	Professional, Scientific, and Technical Services	Office
Office	55	Management of Companies and Enterprises	Office
Office	56	Administrative and Support and Waste Management and Remediation Services (exclude 562, construction, include in industry)	Office
Office	813	8131 - 8139 included in Office (Office) because uses are larger civic and charitable organizations.	Office
Other*	9281	9281 (military) included in Military/Other	(note there are 0 for other for all time periods for Town of Loomis)
Retail	44-45	Retail Trade	Retail and Food Service
Service	4911	4911 post office	Medical and Service
Service	6115-6117	6115-6117 (trade and technical schools) included in Retail(Service) because I-PLACE3S Education is K12 and college related	Medical and Service
Service	623	623 - Nursing and Residential Care Facilities	Medical and Service

Table D-3: Description of Employment Categories			
Employment Category	NAICS Codes	SubCodes/Description	Employment Category for Analysis
Service	624	624 - Social Assistance	Medical and Service

Source: SACOG 2020 MTP/SCS, AECOM

Table D-4: Town of Loomis Job Distribution and Land Use Assumptions							
Employment Category	General Land Use Categories	SF per Employee	Floor Area Ratio	Vacancy Rate ²	Jobs Per Acre	Estimated Job 2016 Distribution	
Retail and Food Service ¹	Neighborhood Commercial, Other Retail	500	0.25	10.0%	21	512	16%
Education and Government ¹	Schools	N/A	N/A	N/A	N/A	485	15%
Office	Office	300	0.3	7.5%	42	735	23%
Medical and Service	Office	250	0.25	7.5%	42	418	13%
Industrial	Light Industrial (50%) General Industrial (50%)	900	0.4	5%	19	1,045	33%
Total						3,195	100%

Source: Western Placer County Nexus-Based Affordable Housing Fee Study, USGBC, Urban Land Institute, 1998 Town of Loomis General Plan

¹ Retail acreage calculated separately based on housing units; school and government acreage not determined as part of this analysis.
² Vacancy rates based on industry best practice. SF per employee based on Western Placer County Nexus-Based Affordable Housing Fee Study and USGBC LEED v.4 New Construction Default Occupancy Counts

Table D-5: Town of Loomis Future Office/Industrial Demand & Absorption							
Future Office/Industrial Demand & Absorption		2016-2020 ²	2021-2025	2026-2030	2031-2035	2036-2040	Total
Total Employment Growth		351	242	116	21	193	923
Distribution of Employment Growth	As of 2016						As of 2040
Retail & Food Service ¹	16%	27%	16%	29%	34%	22%	18%
Education & Government ¹	15%	5%	3%	5%	5%	7%	13%
Office	23%	27%	35%	48%	41%	23%	26%
Medical & Service	13%	19%	9%	18%	20%	14%	14%
Industrial	33%	22%	36%	0%	0%	33%	29%
Total	100%	100%	100%	100%	100%	100%	100%
Total Demand for New Office and Industrial Space							
Office		4	3	2	0	2	11
Light Industrial		2	2	0	0	2	6
General Industrial		2	2	0	0	2	6
Total Acres		8	7	2	0	6	23

Source: SACOG 2020 MTP/SCS, Caltrans Placer County Economic Forecast, AECOM

¹ Retail acreage calculated separately based on housing units; school and government acreage not determined as part of this analysis.

² 2016-2020 based on end year of 2021 given 2020 dip from Covid-19; If growth in a timeframe for an industry is anticipated to be negative, it is zeroed out

Table D-6: Town of Loomis Estimated Demand for Non-Residential Acreage 2016-2040					
Land Use Designations	Retail Demand	Office Demand	Light Industrial Demand	General Industrial Demand	Total Demand
Retail					
Neighborhood Commercial	1				1
Other Retail	15				15
TOTAL RETAIL	17				17
Office & Industrial					
Office		11			11
Light Industrial			6		6
General Industrial				6	6
TOTAL OFFICE & INDUSTRIAL		11	6	6	23
TOTAL ACRES	17	11	6	6	40

Source: AECOM, 2020