

5.0 ANALYSIS OF ENVIRONMENTAL ISSUES

The purpose of this Environmental Impact Report (EIR) is to evaluate the potential environmental effects of the proposed “The Avenue Specific Plan,” related General Plan amendment, Tentative Tract Maps, Development Agreements, cancellation of Williamson Act Contracts, and relocation of aboveground electrical utilities owned by Southern California Edison Company (collectively the Project). The City of Ontario (City) previously circulated a Notice of Preparation (NOP) for The Avenue Specific Plan, formerly known as the “Subarea 18 Specific Plan” (SCH 2005071109) for which the public review period ended August 22, 2005. Subsequent to the circulation of the NOP, the project was modified and the City prepared an Amended Initial Study and re-circulated an Amended NOP on May 12, 2006. The NOP and Amended NOP were transmitted to the State Clearing House, responsible agencies, and other affected agencies to solicit issues and concerns related to the Project. The NOP, Initial Study, Amended NOP, Amended Initial Study, and comment letters are contained in Appendix A of this EIR.

Sections 5.1 through 5.16 of the EIR examine the potential environmental impacts associated with implementation of the proposed Project and focuses on the following issues:

- Aesthetics
- Agricultural Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Geology
- Hazards and Hazardous Materials
- Hydrology/Water Quality
- Land Use
- Mineral Resources
- Noise
- Population/Housing
- Public Services
- Recreation
- Transportation/Traffic
- Utilities/Service Systems

The impact analyses of these environmental issues are discussed in Sections 5.1 through 5.16 of the EIR.

Technical Studies

As discussed in Section 1, technical studies were produced providing detailed technical analyses that were used in this EIR. These documents are identified in Section 10 References, and included on a CD-

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ROM as Appendices C through I. The results of these analyses are presented in the appropriate sections of this EIR.

Analysis Format

The EIR assesses how the proposed Project would impact these issue areas. Each environmental issue addressed in this EIR is presented in terms of the following subsections:

- **Existing Conditions:** Provides information describing the existing setting on or surrounding the Project site which may be subject to change as a result of the implementation of The Avenue Specific Plan. This setting describes the conditions that existed when the NOP was sent to responsible agencies and the State Clearinghouse.
- **Issues Identified During Public Scoping Meeting:** Provides information identifying environmental issues of public interest identified in the August 11, 2005 public scoping meeting for The Avenue EIR. This meeting was held at the 6:30 PM at the Ontario Police Department Community Room at 2500 S. Archibald Avenue. Approximately 30 members of the community attended.
- **Issues Identified in NOP or Amended NOP Comment Letters:** Identifies those parties responding to the NOP or Amended NOP and provides a summary of their comments.
- **Thresholds of Significance:** Provides criteria for determining the significance of Project impacts for each environmental issue.
- **Project Compliance with Existing Regulations:** Provides a discussion of the applicable regulations with respect to each environmental issue.
- **Design Considerations:** Provides a discussion of the Project design considerations and features with respect to each environmental issue.
- **Project Impacts:** Provides a discussion of the characteristics of the proposed Project that may have an effect on the environment; analyzes the nature and extent to which the proposed Project is expected to change the existing environment, and whether or not the Project impacts meet or exceed the levels of significance thresholds.
- **Cumulative Impacts:** Discusses the combined effects of development of the proposed Project along with other regional projects. Development of these areas in conjunction with the proposed Project could have an impact beyond that of implementation of the Project alone.
- **Mitigation Measures:** Identifies NMC mitigation and Project mitigation measures to reduce significant adverse impacts to the extent feasible.

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- **Level of Significance After Mitigation:** Provides a discussion of significant adverse environmental impacts that cannot be feasibly mitigated or avoided, significant adverse environmental impacts that can be feasibly mitigated or avoided, adverse environmental impacts that are not significant, and beneficial impacts.

5.1 AESTHETICS

This section discusses the existing visual setting and potential impact of the proposed Project upon the aesthetics of the Project vicinity, including scenic resources, visual character, and light and glare.

Information in this section is based upon the following documents:

- NMC Final EIR, City of Ontario, October 1997. This document is incorporated by reference.
- 1992 General Plan, City of Ontario, September 1992. This document is incorporated by reference.
- The Avenue Specific Plan, JZMK, September 2006.

5.1.1 Existing Conditions

The visual appearance of the Project Site and vicinity is dominated by dairies and related agriculture uses. These land uses have determined the aesthetic qualities of the NMC's visual resources. The visual analysis completed for the NMC Final EIR included the initial step of identifying elements that either add or detract from the quality of the area. The subsequent step evaluates the role those elements play in the range of views from public areas, including foreground, middle distance, and far distant views.

Positive features that enhance the area's visual resources relate to the current agricultural operations and the accompanying sense of a rural setting. In developed urban landscapes, public views are often limited to foreground features. The lower building density within the existing agricultural setting allows for extensive views across and through dairy operations or cropland areas.

Negative features that adversely affect the area's visual resources include the lack of adequate infrastructure to provide for the separation of current dairy operations with other related uses. Examples of this include a lack of curb, gutter, and sidewalks along existing streets and the close proximity of dairies to one another. This characteristic provides a visual density and intensity that reduces the area's visual aesthetics. In addition, regional air quality negatively affects visual resources by reducing the visibility of middle distance, or distant views of the surrounding mountains.

Scenic Resources

The Project Site is located within the City of Ontario and consists of a generally flat terrain of the larger San Bernardino Valley. The Project Site is approximately 700 to 750 feet above mean sea level with an overall topographic gradient to the southwest. The NMC General Plan does not identify any scenic vistas or scenic highways in the vicinity of the Project Site. No specific scenic resources such as rock outcroppings or unique features exist on the Project Site.

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The Cucamonga Creek Channel bisects the western portion of the Project Site in a north south orientation (Figure 3-3). The channel is concrete lined, approximately 60 feet wide, and devoid of vegetation; thus, it has no inherent scenic value.

Large agricultural lots adjacent to internal and peripheral Project vicinity roadways allow views across open cultivated fields and/or pastures. Various views of the Project Site and surrounding area are provided in Figure 5.1-1. Distant scenic resources include views of the San Gabriel Mountains to the north, San Juan Hill to the southeast, and Sierra Peak to the south. The Project Site is visible from surrounding properties and from public right-of-ways. Currently, the Project Site supports a variety of dairy operations, characterized by farm structures, (barns, sheds, and pole barns) with stored farm machinery, and equipment in yards, and fencing of various constructions. Scattered residential structures are visible from the periphery of the site. Residential properties in the Project Site include some landscaping, fences, and garages.

No formal streetscape plantings exist on or surrounding the Project Site. During periods of high winds the area is subject to airborne dust that reduces visibility. Windrows consisting of mature eucalyptus trees are common throughout the NMC and parallel many of the roads onsite.

The northwestern portion of the Project Site is bisected by a major electrical transmission line operated by the Southern California Edison Company (SCE). A SCE substation is located on the northeast corner of Edison and Archibald Avenues. The approximately 125 foot electrical towers represent one the most visible features on the Project Site and surrounding vicinity.

Dairy Operations and Visual Character

While dairy uses can provide an open rural type setting, the NMC contains a high density of these uses which places them in close proximity to area roadways and each other. This lack of separation between uses reduces the open rural character normally associated with agricultural uses and therefore, detracts from the area's appearance. In addition, storage and/or production-related structures built with reflective metal roofing and siding contribute to an industrial appearance. Outdoor storage yards containing agricultural equipment can be found adjacent to some of the area's residences and agricultural facilities. Operational components of the dairies, such as waste water retention ponds and animal waste stockpiles also diminish the visual appeal of the Project Site.

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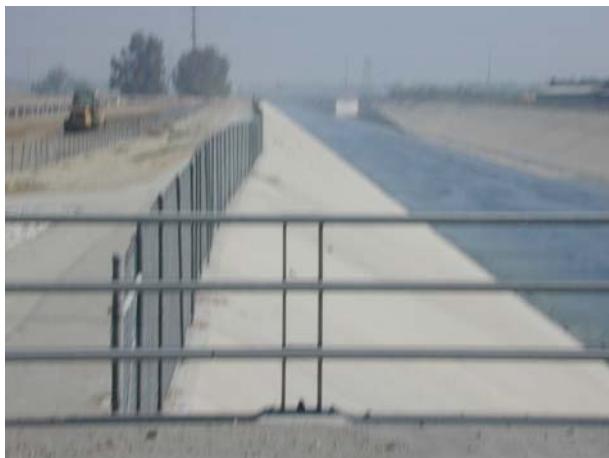
Figure 5.1-1 Site Photographs



SCE substation, located at the corner
of Archibald and Edison Avenues



SCE transmission lines



Cucamonga Creek Channel



Entrance to dairy



Row crop field



Dairy structures

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Light and Glare

Light and glare sources are limited within the Project Site due to the lack of structures, streetlights, and hard surfaces typically found with urban/suburban development. Some dairy operations are illuminated at night; however, the nature of the existing nighttime lighting more resembles a rural setting due to the non-uniformed spacing of the lighting and the lack of well illuminated gathering spaces normally associated with an urban setting. Lights from the residential and commercial developments to the north are visible from the Project Site.

5.1.2 Issues Identified During Public Scoping Meeting

During the Public Scoping meeting, no comments were made regarding aesthetics.

5.1.3 Issues Identified in NOP or Amended NOP Comment Letters

No comments were received in response to the NOP or Amended NOP relative to aesthetics.

5.1.4 Thresholds of Significance

The following criteria for establishing the significance of potential impacts on aesthetics was derived from Appendix G of the CEQA Guidelines and the City's Initial Study Checklist. Potentially significant impacts to aesthetics may occur if a project:

- Has a substantial adverse effect on a scenic vista
- Substantially damages scenic resources, including, but not limited to, trees, rock outcroppings and historic buildings within a state scenic highway
- Substantially degrades the existing visual character or quality of the site and its surroundings
- Creates a new source of substantial light or glare, which would adversely affect day or nighttime views in the area

5.1.5 Project Compliance with Existing Regulations

State of California Government Code, Title 7, Division 1, Chapter 3, Article 8, Section 65450-57 grants authority to cities to adopt Specific Plans for purposes of implementing the goals and policies of their

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General Plans. Therefore, The Avenue Specific Plan component of the Project will comply with the following NMC General Plan policies pertaining to aesthetics:

- Policy 14.1.1 Extensively landscape Euclid Avenue, Grove Avenue, Vineyard Avenue, Archibald Avenue, Milliken Avenue, and Edison Avenue by the use of “enhanced parkways” with landscaped medians and rights-of-way.*
- Policy 14.1.2 Require that comprehensive street tree and landscape plans be established to uniquely identify parkways, neighborhoods, centers, and districts.*
- Policy 14.1.3 Require that the landscaping within the public medians and rights-of-way as well as along the private developments’ street frontage is well designed and properly maintained, minimizes water usage, and maximizes visual continuity while permitting individual expression.*
- Policy 14.1.4 Require that the individual developments transition their landscaping with the neighboring properties’ landscaping, thereby enhancing visual continuity along streets.*
- Policy 14.1.5 Require that view corridors be provided from public places towards the San Gabriel Mountains, where possible.*

The Project will also be consistent with the City’s Landscape Design Development Code Article 32 Section 9-1.3225. These Design Guidelines pursue high quality landscaping associated with different land uses characteristic of the community. The intent is to enhance the street environment for motorists as well as to contribute to convenient pedestrian connections throughout the City.

The Project must also comply with the City’s Lighting Development Code Article 16 Section 9-1.1620c for the commercial land use and Article 14 Section 9-1.1445e for the residential land use. Article 16 Section 9-1.1620c states:

Exterior lighting shall be arranged or shielded in such a manner as to contain the direct illumination on the site and avoid glare into adjacent residential areas.

Article 14 Section 9-1.1445e states:

Light standards under 15 feet in height are encouraged throughout residential projects. Bollard lighting is encouraged along walkways. Overhanging “cobrahead” light fixtures are discouraged. Lighting should utilize Metal Halide luminaries.

Exterior lighting shall be located to reduce glare.

Illuminate pedestrian paths with bollards or lighting standards that are of an appropriate scale.

Avoid unnecessary glare when using architectural lighting to enhance a building’s identity.

5.1.6 Design Considerations

Development within the Project Site will be designed to conform to the design requirements contained in the NMC General Plan and The Avenue Specific Plan (Section 6 Design Guidelines). The Avenue Specific Plan was designed to create a visual appealing community. The Design Guidelines for The Avenue Specific Plan are referenced in later discussions as providing a pleasing aesthetic. The four main components in developing the character for The Avenue Specific Plan include:

- A strong, well defined and memorable site plan, emphasizing The Avenue streetscape as a defining element
- Appropriate community amenities and facility design
- Attractive and timeless landscape architecture
- Complementary and purely themed residential architectural styles

The design guidelines of The Avenue Specific Plan were developed to provide:

- A unique and interesting architectural heritage as the community develops
- Compatible and complementary styles, colors, materials, and detailing
- Massing, setbacks and articulation which are appropriate and fundamentally sound
- Historical relevance and timelessness
- Adaptable and flexible to changing market desires

5.1.7 Project Impacts

Impacts to Scenic Vistas and Resources

There are no designated Official State Scenic Highways within forty miles of the Project Site; therefore, no impacts to scenic highways will occur.

No specific scenic resources such as rock outcroppings or unique features exist on the Project Site; therefore, no impacts to scenic resources will occur.

Existing dairies, cropland, and open space will be replaced by residential and commercial uses, similar to those being established in the Project vicinity. The NMC General Plan has specific land use policies that apply to development along major arterials and highways for the purpose of creating scenic roadways and view corridors. The Project Site is located in the NMC, thus, the proposed Project must meet these

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local policies as discussed in Section 5.1.5. In general, the policies focus on extensively landscaping major streets, such as Archibald Avenue, and on providing view corridors from public places towards the San Gabriel Mountains, where possible. Project Site development will include buffers, screens, setbacks, landscaping, trash enclosures, and other design measures to screen undesirable aspects of site development from major roadways. Inclusion of these design features in the Project is addressed through the requirements of The Avenue Specific Plan and standard City conditions of approval, plan check and permit procedures, and code enforcement practices. Views of the mountains from the school sites and parks within the Project can be maintained through design.

Scenic views of the mountains located approximately 15 miles north of the Site are visible on clear days from all north/south roadways in the Project Site. Currently, rural residences, barns, windrows, and other visual obstructions exist within and near the Project Site. The proposed Project will not create new types of structures that would impair views of the mountains from north/south roadways in any more significant ways than existing structures currently do. Therefore, no substantial effect on a scenic vista will result from Project implementation.

Based on the thresholds of significance identified in Section 5.1.4, the proposed Project will not have a substantial adverse effect on a scenic vista nor will it substantially damage scenic resources, including, but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway.

Impacts to Existing Visual Character

The Project will produce long-term aesthetic impacts on the Site that will substantially change the visual and aesthetic character, transforming existing dairy farms, vacant lands, and agricultural operations into a developed and planned urban community. The existing facilities supporting dairy farming (i.e., barns, pole barns, sheds, water pumps) will be replaced with residential neighborhoods, parks, schools, and commercial uses. To most viewers, construction of the Project will be a visual improvement of the Project's environment. Other viewers will not consider the changes resulting from the Project as an improvement. However, without the Project, the aesthetic character of the Project Site will become increasingly diminished and increasingly incompatible with surrounding uses, as urban development continues on surrounding properties. Extensive design guidelines are included in The Avenue Specific Plan to ensure future construction will incorporate aesthetically pleasing design elements for the proposed residential and commercial uses. The objectives of the Design Guidelines are:

- *To provide guidance to developers and builders, as well as to engineers, architects, landscape architects and other professionals, as to the quality and character of the community and development of each planning area.*

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- *To assure the City of Ontario that The Avenue will develop in accordance with the guidelines provided herein.*
- *To provide guidance to City decision makers in the review of future development projects in The Avenue.*
- *To provide guidance in formulating Covenants, Conditions and Restrictions.*

While the visual character of the Project vicinity will change as land uses transition from one dominated by agriculture to an urban setting, the Project will not substantially degrade the existing visual character or quality of the Project Site.

Community Fences and Walls

Community fences and walls are a major visual element and help unify the appearance of the community. Community walls and fences have been carefully designed to complement the overall theme. They will be easy to maintain and provide a durable, long-term edge enclosure defining “private” and “public” spaces. Guidelines provided in the Specific Plan take into account wall and fence heights, materials, and colors.

Landscaping

Each single- and multi-family projects will be provided with front yard landscaping and permanent automatic irrigation in the front yard. At a minimum, a seeded turf lawn, and appropriate shrubs and trees will be provided. A variety of typical landscape designs will be provided for use on each lot within the subdivision. Those portions which are not used for drive entries, parking, or approved outdoor uses will be fully landscaped; all unpaved areas will be landscaped; and all future development phase areas will be hydroseeded. All residential areas will utilize groundcover, turf, and/or tree materials from the community plant list contained in the Specific Plan.

Specific Plan Design Guidelines also take into account the commercial sites. The Project's land plan encourages an integration of the commercial interior site plan by providing for frontage on Archibald, Haven, Edison, Schaefer Avenues, while also incorporating a major community entry into each commercial site. All commercial areas will utilize groundcover, turf, and/or tree materials from the community plant list contained in the Specific Plan. Walls and dense vegetation will screen side and rear service areas.

The local roads within the Project Site consist of private front or side yards of single family residences. Street trees and front and exterior side yards will be required to be installed by the residential enclave builder, however, the rear and interior side yards will be the responsibility of each individual homeowner. For the commercial sites, appropriate street trees will be utilized adjacent to street frontage integrating the

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site into the overall community setting. Accent tree entry planting will be incorporated at the commercial/office site vehicular access points. Parking lots will utilize landscape islands, landscape berms, and perimeter landscaping.

Irrigation

All landscaped areas will be watered with a permanent underground irrigation system, except for slopes which may have a permanent above-ground irrigation system. Irrigation systems designed for use with both domestic and reclaimed water are encouraged. All irrigation systems will be designed for the eventual use of reclaimed water and/or conversion when available per current applicable standards. Water conservation measures include the use of drip and/or bubbler irrigation and moisture sensors and/or central control irrigation systems. Irrigation systems will be designed per the City's Water Conservation Ordinance.

Light and Glare Impacts

The proposed Project will introduce new sources of nighttime light and glare into the area from parking lot, residential, commercial, and security lighting. Spill of light onto surrounding properties, and "night glow" can be reduced by using hoods and other design features. Inclusion of these design features in the Project is addressed through standard City conditions of approval, plan check and permit procedures, and code enforcement practices.

All street and commercial developments within the Project Site will have uniform lighting standards with regard to style, materials, and colors in order to ensure consistent design. Each residential development may develop its own lighting standards, provided that the selected lighting fixture style is used consistently throughout the subdivision. Lighting fixtures will be well integrated into the visual environment and the appropriate architectural theme.

Although additional light and glare sources would be created, the use of landscaping, directional lighting criteria, and building design criteria incorporated into the Specific Plan would reduce the impact to a level that is less than significant.

5.1.8 Cumulative Impacts

Anticipated growth will fundamentally change the visual and aesthetic character of the Project vicinity from largely vacant, rural terrain to medium to high density urban development. However, this land use change will not have a substantial adverse effect on a scenic vista or a scenic resource. In addition, while build-out of the NMC General Plan area will increase ambient light and glare, these impacts are not

considered cumulatively significant. The entire NMC Project vicinity is designated as “urban” pursuant to Section 147 of Title 24, California Code of Regulations, and the overall design requirements including landscaping and lighting, contained within the NMC General Plan and the Avenue Specific Plan will reduce any cumulative impacts to less than significant.

5.1.9 Mitigation Measures

NMC Mitigation Measures

The NMC General Plan EIR states that the loss of visual resources associated with the transition of the rural landscape to urban uses cannot be effectively mitigated. Additionally, it states that the NMC General Plan policies are designed to create a positive visual environment of the development proposed for the NMC. With implementation of these policies, the NMC General Plan EIR indicates that additional mitigation would not be required.

Project Mitigation Measures

No mitigation measures are necessary for impacts associated with the transition of rural to urban uses within the Project Site. The Avenue Specific Plan component of the Project provides detailed design guidelines to ensure the Project will meet the City’s visual standards.

5.1.10 Level of Significance After Mitigation

With adherence to the design guidelines of The Avenue Specific Plan, the proposed Project would result in less than significant impacts related to aesthetics.

5.2 AGRICULTURAL RESOURCES

Information in this section is based on the following sources:

- New Model Colony Final Environmental Impact Report, City of Ontario, 1997.

This document is incorporated by reference.

- 2005 Crop and Livestock Report, County of San Bernardino Department of Agriculture/Weights and Measures, hereinafter referred to as the 2005 Report.
- United States Department of Agriculture Natural Resources Conservation Service, Soils Website.
- California Agricultural Land Evaluation and Site Assessment Model, 1997, California Department of Conservation.

The NMC Final EIR evaluated the potential impacts to prime agricultural land and to agricultural productivity associated with the complete build-out of the NMC per the NMC General Plan on a broad programmatic level. With respect to the conversion of agricultural lands, the NMC Final EIR concluded: (i) the only prime agricultural land in the NMC that might not be converted to urban uses is approximately 200 acres owned by the Southern California Agricultural Land Foundation and (ii) conversion of agricultural uses to urban uses within the NMC would result in a significant and unavoidable impact. With respect to agricultural productivity, the NMC Final EIR concluded that although a portion of the future losses in agricultural productivity in the NMC may be attributed to an existing and continued decline in agricultural productivity, market forces associated with the adoption of the NMC General Plan would probably increase the rate of conversion of agricultural land to urban uses resulting in a corresponding decline in long term agricultural productivity (Envicom Corporation 1997, pages 5.2-7 – 5.2-8).

This section of the EIR provides an analysis of the impacts of converting agricultural land to urban uses in accordance with the California Land Evaluation and Site Assessment (LESA) Model developed by the California Department of Conservation in addition to the impacts associated with the cancellation of Williamson Act Contracts.

5.2.1 Existing Conditions

Agricultural Conditions

Regional Agricultural Conditions

San Bernardino County (the County) has a long history of agricultural production and farming continues to be a major contributor to the nation's food supply as well as a vital component of the rural lifestyle, which

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exists throughout much of the County. The total gross value of agricultural production in the County, which decreased by approximately 18 percent between 2004 and 2005, is summarized in Table 5.2-1.

Table 5.2-1 Historic Gross Value of Agricultural Production in San Bernardino County

Year	Gross Value of Agricultural Production	Change from Previous Year	Reason for Change in Gross Value of Agricultural Products
2005	\$565,101,000	-17.8%	Reduction of dairy industry in Chino-Ontario area, a 12.5% decline in milk production, decrease in milk price
2004	\$687,829,000	6.5%	Higher price received for milk in spite of the decrease in milk production
2003	\$645,885,300	2.3%	Sales of nursery stock, support by increase in milk and egg sales
2002	\$631,550,100	-10.3%	Low value of milk in 2002, milk prices dropped to their lowest value since 1988
2001	\$704,152,900	---	High value of milk

Source: County of San Bernardino Department of Agriculture/Weights and Measures

The 2005 Report states that despite the diminishing dairy industry in the County, milk production continues to be the dominant agricultural activity and accounts for approximately 60.7 percent of the total value of agriculture in the County. The top ten agricultural products, which in 2005 accounted for approximately 87 percent of the total gross value of agricultural production in the County, are presented in Table 5.2-2.

Table 5.2-2 Top Ten Agricultural Products in San Bernardino County in 2005

2005 Rank	Product	Value	Percent of Total	2004 Rank
1	Milk	\$342,897,100	60.7%	1
2	Eggs	\$31,080,400	5.5%	2
3	Replacement Heifers	\$28,429,000	5.0%	3
4	Trees/Shrubs	\$24,710,800	4.4%	5
5	Cattle and Calves (Meat)	\$19,209,800	3.4%	4

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2005 Rank	Product	Value	Percent of Total	2004 Rank
6	Alfalfa	\$13,667,600	2.4%	8
7	Oranges	\$11,603,100	2.1%	7
8	Indoor Decoratives	\$7,768,300	2.0%	5
9	Bok Choi	\$6,819,000	1.2%	9
10	Chickens (Meat)	\$2,923,200	0.7%	10
	Total Top Ten	\$489,109,200	86.6%	
	All Other Products	\$75,991,800	14.4%	
	Grand Total	\$565,101,000	100.0%	

Source: County of San Bernardino Department of Agriculture/Weights and Measures, 2005 Crop and Livestock Report

The 2005 Report identified a total of 136 dairies as of January 1, 2006, which represents an approximate 12 percent reduction from the 154 dairies identified on January 1, 2005. As dairies have closed, the dairy herd has decreased by approximately 23% from 149,500 head of cattle on January 1, 2004 to 115,700 head of cattle on January 1, 2005.

The 2005 Report states San Bernardino County has a total of 1,259,360 acres in agricultural production. Table 5.2-3 presents a summary of the total acres in agricultural production of the five commodity groups tracked by the County for 2001 through 2005 plus the percent change from the previous year.

Table 5.2-3 Acreage in Agricultural Production in San Bernardino County by Commodity Group

Commodity Group	Acreage				
	2001	2002	2003	2004	2005
Field Crops	2,039,976	1,618,698	1,620,196	1,648,890	1,249,210
Vegetable Crops	4,453	5,497	4,614	4,646	4,343
Fruit and Nut Crops	7,723	7,580	6,170	5,572	4,906
Nursery Products	917	1,089	1,076	1,030	898
Total	2,053,069	1,632,865	1,632,056	1,660,138	1,259,360
Change from Previous Year		-20.4%	-0.05%	+1.72%	-24.11%

Source: County of San Bernardino Department of Agriculture/Weights and Measures

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As indicated in Table 5.2-3, each commodity group for the most part experienced a decline in the amount of acreage in agricultural production from 2004 to 2005.

The NMC Final EIR indicated the economic vitality of agriculture in the NMC and Southern California has declined in direct response to increased development pressures that result in the conversion of agricultural lands to urban uses. This trend is anticipated to continue due to continued urbanization of Southern California land in addition to the urbanization of the San Joaquin Valley, and other states located in the western United States.

NMC Agricultural Conditions

The NMC Final EIR states that agricultural uses accounted for approximately 89 percent (approximately 7,330 acres out of 8,200 acres of the NMC). Approximately 50 percent of the agricultural acreage in the NMC is used for dairy and poultry operations, with cultivated crops, fallow cropland, and nurseries comprising the other agricultural uses.

Project Site Agricultural Conditions

The majority of the Project Site is currently used for agricultural production. Dairy, poultry, and cultivated cropland have been produced on the Project Site since at least 1995 when the NMC Final EIR was prepared. Table 5.2-4 presents a summary of the land uses on the Project Site, the acreage associated therewith, and the Planning Areas in which such use is located. Figure 3-3 shows the existing land uses for the Project Site.

Table 5.2-4 Agricultural Uses, Acreage, and Planning Areas

Land Use	Acreage	Planning Areas
Dairy	409	PA-2B, PA-3A, PA-3B, PA-4, PA-5, PA-6A, PA-6B, PA-8A, PA-9A, PA-9B, PA-9C, PA-9D, PA-10A, PA-10B, PA-11
Cultivated Crops	97	PA-1A, PA-1B, portion of PA-2B and PA-7
Poultry	27	PA-8B, portion of PA-7

State Farmland Mapping Program

The California Department of Conservation (CDC) established the Farmland Mapping and Monitoring Program (FMMP) in 1982. The FMMP is a non-regulatory program and provides a consistent and impartial analysis of agricultural land use and land use changes throughout California. Agricultural land is rated according to soil quality and irrigation status and is identified by the following categories: Prime Farmland, Unique Farmland, Farmland of Statewide Importance, and Farmland of Local Importance,

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collectively referred to as Farmland. According to the Natural Resources Conservation Service (NCRS), there are two types of soils present on the Project Site - Delhi fine sand (NCRS symbol Db) and Hilmar loamy fine sand (NCRS symbol Hr) (Table 5.2-5). Both of these soils meet the criteria for Prime Farmland per the CDC (California Department of Conservation 2005). Figure 5.2-1 Illustrates the distribution of Db and Hr on the Project Site.

Table 5.2-5 Project Site Soil Types

Soil Type	Acres	Portion of Project Site
Delhi Fine Sand (Db)	416	73%
Hilmar Loamy Fine Sand (Hr)	155	27%

Prime Farmland in the County

The CDC inventoried 38,080 acres of important Farmland in the County of San Bernardino in 2004, as shown in Table 5.2-6. Despite some acquisition of Farmland, all categories of important Farmland experienced net decreases between 2002 and 2004, and important Farmland as a whole declined almost nine percent by 2004, to 34,674. As shown in Table 5.2-6, the net loss of Prime Farmland (1,333 acres) accounts for nearly half of the Farmland lost (3,406 acres). As development pressure increases throughout the County and NMC the amount of important Farmland will continue to decrease.

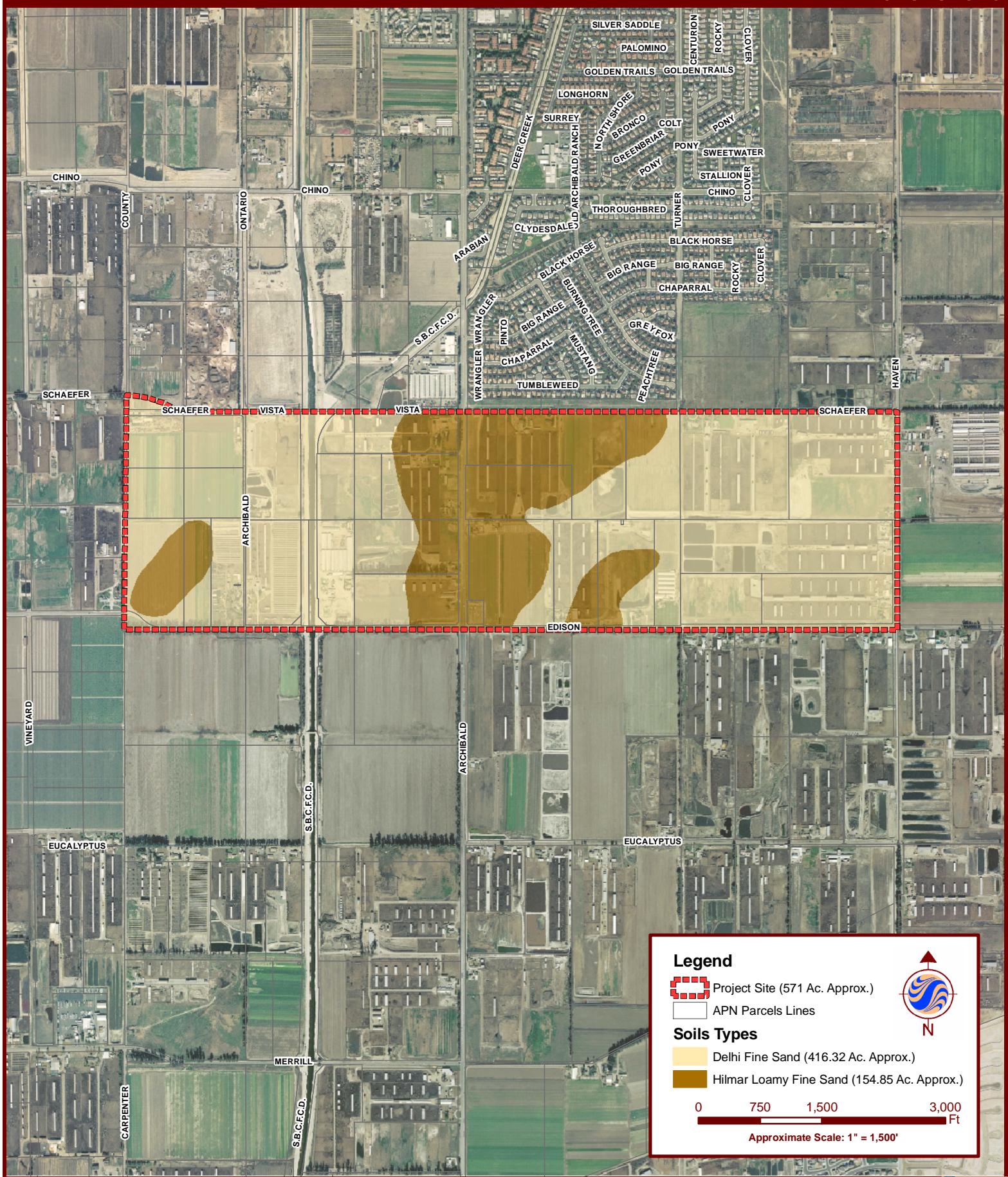
Table 5.2-6 Important Farmland in San Bernardino County in 2004

Farmland Category	Total Inventoried		2002-2004 Acreage Changes			
	2002	2004	Lost (-)	Gained (+)	Total Changed	Net Changed
Prime Farmland	21,648	20,315	1,571	238	1,809	-1,333
Farmland of Statewide Importance	9,706	8,777	1,113	184	1,297	-929
Unique Farmland	3,412	2,654	816	58	874	-758
Farmland of Local Importance	3,314	2,928	402	16	418	-386
Total Important Farmland	40,082	36,678	3,902	496	4,398	-3,406

Source: CDC Farmland Mapping and Monitoring Program, Table A-25

Williamson Act Contracts in the Project Site

There are currently ten (10) Williamson Act Contracts in the Project Site encompassing a total of 273.9 acres on 16 Assessor's Parcels within Planning Areas PA-1A, PA-1B, PA-2A, PA-5, PA-6A, PA-6B, and PA-11. The sizes of the individual Williamson Act Contracts range from approximately 12 acres to approximately 40 acres. Notices of Nonrenewal have been filed for three of the Williamson Act Contracts;



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Cartographic Design By: Tracy Barger

Geographic Information Systems

Figure: 5.2-1

Soil Exhibit

The Avenue / New Model Colony



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contract no. 69-142, which encompasses 39.24 acres, expires in 2010; contract nos. 68-057 and 75-465, which encompasses 39.06 and 19.50 acres, respectively, expires in 2011. The remaining seven Contracts are still active. Table 5.2-7 identifies the contract number, contract status Assessor's Parcel Number, and in which Planning Area the contract is located. Figure 5.2-2 shows the location of the contracted property.

Table 5.2-7 Williamson Act Contracts on the Project Site

Contract No.	Contract Status	APN	Acreage	Planning Area per The Avenue Specific Plan
68-057	Expires 2012	218-201-44	39.06	Por. PA 6A and PA 6B (school site)
68-120	Active	218-201-18	29.30	Por. PA 7
69-142	Expires 2010	218-201-30	39.24	PA 11
71-166	Active	218-191-04	19.37	Por. PA 5 and elementary school site
71-338	Active	218-181-23 218-181-24 218-181-25 218-181-26 Total	10.37 9.20 10.37 <u>9.20</u> 39.14	Por. PA 1B Por. PA 1B Por. PA 1B and park PA 1A
72-349	Active	218-191-05	13.43	Por. PA 5
72-353	Active	218-191-14 218-191-15 218-191-16 Total	17.35 8.06 <u>7.25</u> 32.66	Por. PA 5 and elementary school site Por. PA 5 and park Por. PA 5 and elementary school site
72-357	Active	218-191-22	12.17	Por. PA 5 and recreation park
72-456	Expires 2012	218-201-15	19.50	Por. PA 6A
79-546	Active	218-181-17 218-181-21 Total	20.05 <u>10.00</u> 30.05	Por. PA 2A Por. PA 2A
<i>Acreage per County of San Bernardino Assessor's Parcel Maps</i>				

Source: JZMK Partners

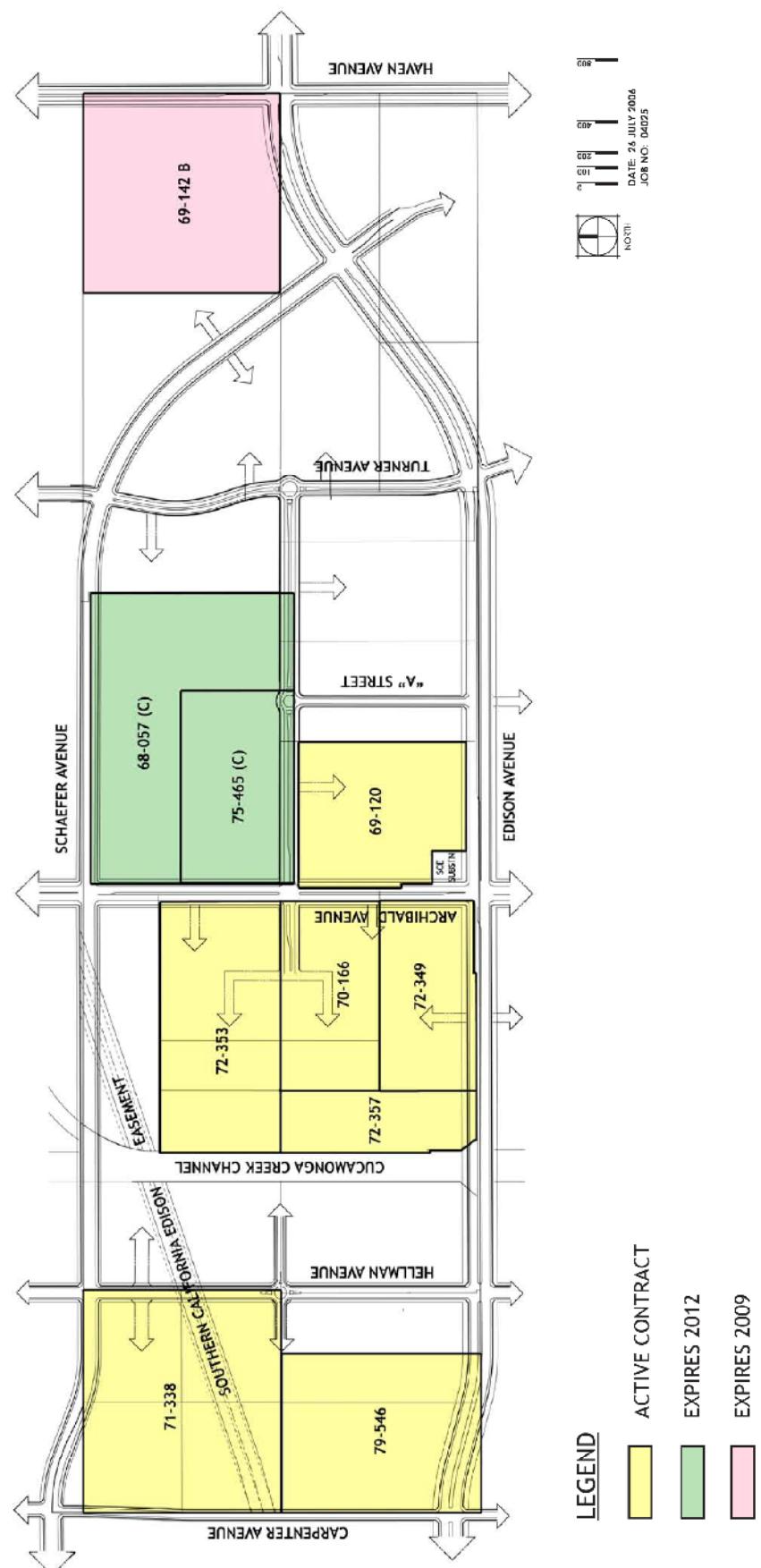


Figure: 5.2-2

Williamson Act Contracts The Avenue / New Model Colony

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5.2.2 Issues Identified During Public Scoping Meeting

No comments were made with respect to agricultural resources at the public scoping meeting.

5.2.3 Issues Identified in NOP or Amended NOP Comment Letters

No comments were received in response to the NOP or Amended NOP relative to agricultural resources.

5.2.4 Thresholds of Significance

According to Appendix G of the State CEQA Guidelines and the City's Initial Study Checklist, a project would normally have a significant effect on the environment if it would:

- Convert Prime Farmland, Unique Farmland or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use;
- Conflict with existing zoning for agricultural use, or a Williamson Act Contract; or
- Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland, to nonagricultural use.

Appendix G of the State CEQA Guidelines provides for an alternative evaluation technique for assessing potential impacts to agricultural resources by the use of the LESA Model prepared by the California Department of Conservation. This EIR uses both the LESA Model and the remaining other Appendix G Thresholds of Significance for the purpose of analyzing impacts.

5.2.5 Project Compliance with Existing Regulations

The Williamson Act (California Land Conservation Act of 1965)

California adopted the Williamson Act to preserve both prime and nonprime agricultural land for continued production. Participation in the Williamson Act program is voluntary, wherein property owners enter a minimum 10-year rolling contract with the respective city or county, in which they agree to commit the land to agricultural and/or a compatible use, as defined in the subsections quoted below, in return for

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property tax assessment based upon agricultural productivity, rather than upon the parcel's assessed market value.

At the end of each year, another year is automatically appended to the contract term, so that the minimum commitment remains ten years. Only under specific circumstances may a contract be canceled outright. However, the owner may decline to renew the contract by filing a Notice of Nonrenewal per the provisions of the Williamson Act at any year's end. The contract will expire ten years after filing for nonrenewal during which time the property taxes increase until eventually the taxes equal the land's assessed value at the end of the contract's term.

To approve cancellation of a Williamson Act contract, the Ontario City Council must find that the cancellation is either consistent with the purposes of the Williamson Act or in the public interest (California Government Code, Section 51282(a)). In order to support a finding that the cancellation is consistent with the purposes of the Act, the City Council must make the following findings as set forth in Section 51282(b) of the California Government Code:

- The owner of the land has already served a notice of nonrenewal of the contract
- The cancellation is not likely to result in the removal of adjacent lands from agricultural use
- The cancellation is for an alternative use which is consistent with the applicable provisions of the relevant general plan
- The cancellation will not result in discontiguous patterns of urban development
- There is no proximate noncontracted land which is both available and suitable for the proposed alternative use of the land, or development of the land would provide more contiguous patterns of urban development

In the context of Section 51282 of the California Government Code and the above discussed findings, "proximate noncontracted land" means land not restricted by a Williamson Act contract that is sufficiently close to the land, which is restricted by a Williamson Act contract, that the noncontracted land can serve as a practical alternative for the use which is proposed for the land with the Williamson Act contract.

To support a finding that the cancellation is in the public interest, the City Council must make the following findings per Section 51282(c) of the California Government Code:

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- Other public concerns substantially outweigh the objectives of the Williamson Act
- There is no proximate noncontracted land which is both available and suitable for the proposed alternative use, or development of the land would provide more contiguous patterns of urban development

California Code of Regulations (Title 3, Food and Agriculture)

California Code of Regulations (CCR) Title 3, Sections 6000 to 6920 regulate the registration, management, use, and application of pesticides on agricultural lands. These regulations are enforced by the San Bernardino County Agricultural Commissioner's Office. Generally, specific regulations vary for each pesticide, its method of application and use. Nonetheless, Sections 6600 and 6614 have some general regulations relating to the application of pesticide uses. Section 6600 provides regulations regarding general standards of care in the application of pesticides, and Section 6614 includes regulations that are intended to protect people, animals, and property, and which limit the conditions under which pesticides may be applied.

City of Ontario Municipal Code

The City's Agricultural Overlay Zoning District, codified in Section 9-1.2700 of the Ontario Municipal Code, is a right to farm ordinance that allows existing agricultural uses to continue on an interim basis until such time as specific plan is approved for a property and urban development begins. The overlay zoning requires a minimum 100-foot separation between active agricultural operations and new, nonagricultural development; the separation requirement may be satisfied by an off-site easement with adjacent properties. These requirements are to be addressed in the specific plan review process and as development within the Project Site occurs.

NMC General Plan Policies

The NMC General Plan contains policies (listed below) that are designed to protect agricultural operations to reduce potential impacts to agricultural operations and loss of farmland.

Policy 2.1.2 *Adopt and enforce the provisions of the Right-to-Farm Ordinance and the state nuisance law (California Code Subsection 3482). Such an ordinance would require nonagricultural residents be made aware of the local agricultural operations, their practices, and the potential agriculturally related impacts (noise, odor, etc.).*

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- Policy 2.3.2 Create a Transitional Roadway Plan that minimizes the farm product transport/farm equipment conflicts with urban use related transport. Such a plan would identify existing routes essential to the transportation of farm products through remaining agricultural areas and through nonagricultural areas as needed to access regional transportation routes; prioritize those roads that will be first to convert to primarily serving urban uses; and establish roadway signage and markings to inform drivers that farm transport vehicles and machinery may be using the roads.*
- Policy 2.3.3 Require nonagricultural developments to include measures that prevent urban runoff flooding and silting from impacting the agricultural operations.*
- Policy 2.3.4 Inform new residents and property owners that existing agricultural uses may create nuisances such as flies, odors, dust, noise, night light, and chemical spraying.*
- Policy 2.3.5 Protect agricultural lands from trespass, theft, vandalism, roaming dogs, and comparable impacts from urban uses.*

5.2.6 Design Considerations

There are no proposed design considerations within the Project to retain agricultural land.

5.2.7 Project Impacts

Implementation of the proposed Project would convert existing agricultural land and uses on the Project Site to nonagricultural uses. This would result in the conversion of over 571 acres of land with soils type that qualifies as Prime Farmland to urban uses. This is considered a significant impact on Farmland and agricultural resources.

Impacts Related to Conversion of Farmland

Implementation of the proposed Project would convert approximately 571 acres of Prime Farmland from agricultural to urban uses. As shown in Table 5.2-6, CDC data indicates that in 2004 the County contained a total of 34,674 acres of important Farmland. Over half of this land 20,315 acres, is classified as Prime Farmland. The conversion of the Project Site from agricultural to the proposed uses would represent a reduction of the total amount of 1.7 percent of important Farmland within the County, and a reduction of 2.9 percent of the total Prime Farmland in the County. Although the proportion of the total loss is low, the California Department of Conservation considers any loss of important Farmland to be significant. Additionally, some of this conversion of Farmland to nonagricultural uses would occur within an area previously designated by the County as an agricultural preserve. This loss of available

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agricultural land within the preserve would hinder efforts to maintain an economically viable agricultural preserve as a means to mitigate the impacts of Farmland conversion throughout the County, as less Farmland would be available for purchase or placement into easements. Therefore, this potential impact is considered significant.

Land Evaluation and Site Assessment (LESA) Model

Project impacts to agricultural resources were analyzed using the LESA Model. The LESA Model uses six different factors, which are organized under the broad classifications of Land Evaluation and Site Assessment. The two Land Evaluation factors are functions of the quality of soils resources. The four Site Assessment factors address the size of a project site, water resource availability, surrounding agricultural lands, and surrounding protected resource lands. The six factors used in LESA provide a measure of the social, economic, and geographic attributes that contribute to the overall value of agricultural land. For any given project, each of these factors is rated separately on a 100 point scale. The factors are then weighted relative to each other and combined resulting in a single numeric score, the maximum of which is 100 points. The numeric project score is the basis for making a determination of potential significance in comparison with a range of scoring thresholds. Table 5.2-8 presents the LESA Model Scoring Thresholds. The LESA worksheets completed for the Project are included in Appendix B.

Table 5.2-8 LESA Model Scoring Thresholds

Total LESA Score (Points)	Scoring Decision
0 to 39	Not considered significant
40 to 59	Considered significant only if Land Evaluation and Site Assessment subscores are each greater than or equal to 20 points
60 to 79	Considered significant unless either Land Evaluation or Site Assessment subscore is less than 20 points
80 to 100	Considered significant

Source: California Agricultural Land Evaluation and Site Assessment Model Instruction Manual, 1997

Land Evaluation

The two Land Evaluation (LE) factors used in the LESA model are typically based on soil surveys and are known as the Land Capability Classification (LCC) and Storie Index. The LCC is an indication of the suitability of soils for most kinds of crops. Soils are grouped according to their limitations when used to grow crops and the risk of damage to soils when they are used in agriculture. Soils are rated from Class I to Class VIII, with the highest rating (Class I) going to soils with the fewest limitations.

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The two soil types present on the Project Site are Delhi Fine Sand (NCRS symbol Db), which has an LCC of IIe and an LCC Point Rating of 90, and Hilmar Loamy Fine Sand (NCRS symbol Hr), which has an LCC of IIle and an LCC Point Rating of 70. These values are entered into the LESA Worksheet in Appendix A, and result in an overall LCC Score of 85.

The Storie Index is a method of soil rating based on soil characteristics that govern the land's potential utilization and productive capacity. It is a factor independent of other physical or economic factors that might determine the desirability of growing certain plants in a given area. The Storie Index is based on a numeric scale from 0 to 100, where 100 represents the most favorable conditions for agricultural production. The Storie Indexes for the Deli Fine Sand and Hilmar Loamy Fine Sand are 62 and 77, respectively. These values are entered in to the LESA Worksheet in Appendix B and results in an overall Storie Index Code of 66.1 for the Project.

Site Assessment

There are four Site Assessment (SA) factors used in the LESA Model:

- Project Size Rating
- Water Resources Availability Rating
- Surrounding Agricultural Land Rating
- Surrounding Protected Resource Land Rating.

Project Size Rating

The Project Size rating is based on the Land Capability Classification acreage figures tabulated under the Land Evaluation portion of the model and then determining which grouping generates the highest Project Size Score. According to Table 3 in the LESA Instruction Manual, the Project Site receives a Project Size Score of 100 for the 416 acres in LCC Class II.

Water Resources Availability Rating

The Water Resources Availability Rating is a function of the water sources that may supply the Project Site and the availability of water during drought and non-drought years. Existing irrigation systems are located throughout the Project Site and water supply sources are readily available in the immediate area. Based on Table 5 in the LESA Instruction Manual, it was determined that portions of the Project Site are currently irrigated and portions of the Project Site are under agricultural production; thus, irrigated production is considered feasible during both drought and non-drought conditions, although there may be

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physical or economic restrictions to agricultural production. The overall resulting Water Resource Availability score for the Project is 89.8

Surrounding Agricultural Land Rating

The Surrounding Agricultural Land Rating is based upon identifying the Project's Zone of Influence (ZOI), which is defined as that land near a given project that is likely to influence, and be influenced by, the agricultural land use of the Project Site. The ZOI is a rectangular area extending one-quarter mile beyond the Project Site. The percentage of total land within the ZOI, minus the Project Site, under agricultural production is determined. The ZOI for the proposed Project encompasses 896.28 acres, of which 819.28 acres, or approximately 91 percent, is agriculture. This results in a score of 100 per Table 6 in the LESA Instruction Manual.

Surrounding Protected Resource Land Rating

The Surrounding Protected Resource Land Rating is scored in a manner similar to that used for the Surrounding Agricultural Land Rating. Protected Resource Lands are those lands with long-term use restrictions that are compatible with or supportive of agricultural uses of land including: Williamson Act contracted lands, publicly owned lands maintained as park, forest, or watershed resources, and lands with agricultural, wildlife habitat, open space or other natural resource easements restricting the conversion of such lands to nonagricultural uses.

There are 223.63 acres of properties with Williamson Act Contracts within the ZOI, which represents 25 percent of the area in the ZOI and a resulting Surrounding Protected Resource Land Score of 0 per Table 7 in the LESA Instruction Manual.

Final LESA Score

The Project's total LESA score is determined after all of the individual Land Evaluation factors and Site Assessment factors have been scored and weighted. The total LESA score for the Project, as shown on worksheets in Appendix B, is 81.2, which according to LESA Significance Thresholds (Table 5.2-8) means implementation of the proposed Project will result in a significant impact with respect to the conversion of Farmland.

Conversion of the agricultural land in the NMC, with the exception of properties managed by the Southern California Agricultural Land Foundation (SoCALF), has been anticipated by the City. Sections 5.1 (Land Use) and 5.2 (Agricultural Resources) of the NMC Final EIR concluded that urbanization of the NMC, which the Project Site is a part, was likely to occur and would result in the loss of Farmland. The NMC

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Final EIR also concluded that existing Williamson Act Contracts could slow the rate of Farmland, or reduce the amount of loss of Farmland, however the degree to which this could occur was speculative.

The 1998 General Plan and NMC General Plan contain policies intended to protect existing agricultural uses by:

- Recognizing the right of agricultural operations to continue
- Requiring a right-to-farm ordinance
- Preventing inappropriate regulations
- Assisting farmers and agricultural landowners to understand regulations

These policies provide some protection from forced conversions, in addition to information to prevent regulatory breaches that could jeopardize agricultural operations. Although these measures taken together, could reduce the rate of conversion of agricultural land, nothing specifically proscribes against the conversion of Farmland.

The City has not established an area for off-site acquisition of agricultural land, has not established any ratio of acquired easements to lost land, has not adopted a formal mechanism for the collection of fees to do so, and does not anticipate the establishment of any of the foregoing in the foreseeable future. Further, no land has been reserved for this purpose, and the purchase of the quantity of land necessary to implement any such scheme is speculative, for both economic and policy reasons due to the lack of available contiguous parcels of high-quality agricultural land in the Project region, as well as rising land costs and competition for use of land for commercial and residential uses. The development and establishment of such a mitigation plan is not considered feasible given the economic and land use constraints identified above. Consequently, this impact would remain significant and unavoidable.

Impacts Related to Conflicts with Agricultural Zoning or Williamson Act Contracts

The entire NMC, including the Project Site, was zoned Specific Plan when it was annexed to the City. However, when the NMC was annexed, the City also adopted the Agricultural Overlay Zoning District, which would allow existing agricultural uses within the NMC to continue until such time as specific development proposals were submitted. Thus continuing existing agricultural operations in the Project Site until Project development commences is consistent with this ordinance.

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With respect to conflicts with Williamson Act Contracts, the Project Site has ten (10) Williamson Act Contracted properties encompassing a total of 273.9 acres in Planning Areas PA-1A, PA-1B, PA-2A, PA-5, PA-6A, PA-6B and PA-11. Notices of Nonrenewal have been filed for three of the Williamson Act Contracts and it is anticipated that the applicants will file for immediate cancellation of these Contracts concurrent with processing of Tentative Tract Maps. Although no notices of nonrenewal have been filed for the remaining seven Williamson Act Contracts it is possible that the property owners may elect to cancel the contract to allow development. Although any cancellation would be performed in accordance with the requirements of California Government Code Section 51282(a); development of the urban uses proposed by the Project on property under a Williamson Act contract would conflict with the Williamson Act, as these uses are considered to be incompatible with agriculture. Consequently, a conflict between the proposed uses and the Williamson Act is anticipated to occur, which is considered a significant impact. Additionally, since no feasible mitigation is available to reduce this impact due to the lack of available contiguous parcels of high-quality agricultural land in the region, rising land costs, and competition for use of land for commercial and residential uses, this impact would remain significant and unavoidable.

Impacts Related to Changes in the Existing Environment

As previously discussed, implementation of the proposed Project would result in the conversion of agricultural uses to nonurban agricultural uses, which would be considered a potentially significant and unavoidable impact. Development of the Project would occur as part of a wider pattern of development in the NMC area and the conversion of other agricultural land to urban uses per the NMC General Plan is expected with or without the Project. The Project could promote such urban growth by contributing to the encirclement of other agricultural land with urban development, which could make subsequent cancellations of other Williamson Act Contracts easier to justify. Although development proposals for substantial portions of the NMC are already pending, development of the Project Site as proposed by Project could facilitate the conversion of Farmland outside of the Project Site. Consequently, implementation of the Project could result in the conversion of farmland outside of the Project Site to nonagricultural use.

NMC GPA Policy 2.1.2 and Project Mitigation Measure AG-1 (described in Section 5.2.7 below) require respectively, the creation of a right-to-farm ordinance and the provision of deed disclosures to buyers of property near agricultural operations. The deed disclosures would ensure that new residents within the Project vicinity are aware of nearby agricultural operations and the effects of these operations, thereby

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reducing potential conflicts between agricultural and other uses. The right-to-farm ordinances also protect against the forced sale or conversion of agricultural lands within the Project Site and the NMC.

Despite this policy and mitigation measure, implementation of the proposed Project would still increase economic and other pressures to convert agricultural uses to urban uses, which could indirectly result in the conversion of land outside the Project Site, and although the City's right-to-farm ordinance exists to substantially reduce potential pressure to convert agricultural land to other uses, and Project Mitigation Measure AG-1 would serve to minimize conflicts between agricultural and other uses on the Project Site, this impact remains significant and unavoidable.

5.2.8 Cumulative Impacts

Pending development proposals throughout the County and NMC are proposed that would result in the conversion of agricultural land to nonagricultural land. As shown in Table 5.2-3, there was a 24 percent decline in the amount of acreage in agricultural production in the County between 2004 and 2005. Additionally, Farmland in the County has declined by approximately 3,400 acres, nine percent from 2002 to 2004 as shown in Table 5.2-6. The NMC Final EIR (Section 5.2 Agriculture) indicates that nearly all of the approximately 3,000 acres of prime agricultural land in the NMC will eventually be developed. Thus the conversion of agricultural land to urban uses is likely to continue as development pressure throughout the County and NMC increases.

Since no feasible mitigation, due to the lack of available contiguous parcels of high-quality agricultural land in the Project vicinity combined with rising land costs and competition from urban land uses, is available to reduce this impact; cumulative impacts would be significant. The loss of this Farmland and the indirect incentive associated with Project implementation to cancel other Williamson Act Contracts on adjacent agricultural land is considered to be a significant cumulative impact, and the contribution of the proposed Project, although small as a percentage, constitutes a cumulatively considerable contribution. Consequently, the cumulative impact of the proposed Project on Prime Farmland and the conversion of agricultural uses would be significant.

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5.2.9 Mitigation Measures

NMC Mitigation Measures

The NMC Final EIR concluded that no feasible mitigation measures existed in connection with the conversion of prime agricultural land to nonagricultural uses. The present EIR has confirmed this previous conclusion.

Project Mitigation Measures

The following mitigation measure would be required of the proposed Project.

- AG-1 All residential units in the Project shall be provided with a deed disclosure or similar notice approved by the City Attorney regarding the proximity and nature of neighboring agricultural uses. This disclosure shall be applied at the tentative map stage to the affected properties, or otherwise prior to finalizing the sale or rental agreement of any property. The written disclosure shall be supplied to the property purchaser or renter by the vendor or vendor's agent. The content and text of the disclosure shall include language to inform new residents that existing agricultural uses may create nuisances such as flies, odors, dust, night light, and chemical spraying.

No additional Project mitigation is available to reduce impacts to agricultural resources.

The potential to provide onsite mitigation for the loss of prime agricultural land and the existing agricultural uses was considered, but rejected as infeasible for several reasons. Since nearly the entire Project is considered Farmland and used for agricultural purposes, the only feasible onsite mitigation would be avoidance, which in this instance means to not implement the proposed Project. Avoidance is infeasible since to not implementing the Project would be inconsistent with the NMC General Plan designations for the Project Site.

Onsite and off-site mitigation for the loss of agricultural land and uses was considered during the preparation of this EIR, but found to be infeasible. If a portion of the site was maintained in agriculture, in the long-term it would become economically unviable as the other dairies and agricultural uses within the Chino Basin move out to other regions or states. Agriculture needs specialized support uses such as feed stores, equipment sales and maintenance, and manure removal services; without a critical mass of customers (dairies and farms), such services close thus driving the cost of securing such services up and making agriculture less profitable. According to the Census of Agriculture farm production expenses in

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San Bernardino County increased from an average of \$167,844 per farm in 1997 to \$240,765 per farm in 2002. Over the same time period, the number of farms in San Bernardino County decreased from 1,861 to 1,382. Neighboring Riverside County saw similar increased expenses of \$204,052 per farm in 1997 to \$253,229 in 2002, with a similar loss in the number of operating farms from 3,864 in 1997 to 3,184 in 2002. These trends will continue as the cost of land, supplies, and services increase.

Environmental factors and regulations are also causing the decline in the viability of agriculture within the Chino Basin. Stricter air quality and water quality regulations make farming more difficult and create an environmental burden on urbanized areas. The sources contributing to particulate matter pollution include road dust, windblown dust, agriculture, construction, fireplaces and wood burning stoves, vehicle exhaust, and NO_x and SO₂ reaction with ammonia (NH₃). Specifically, SCAQMD data indicates the largest component of PM₁₀ particles monitored at the Rubidoux monitoring station (located east of the NMC in Riverside County) comes from dust (unpaved roads, unpaved yards, vacant land that has been disced). PM_{2.5} particles are mostly manmade particles resulting from combustion sources. According to SCAQMD, the highest component of PM_{2.5} pollution in the area comes from nitrate particulates. NO_x produced by vehicles throughout the SCAB is carried by local wind patterns into the Chino area where it reacts with ammonia (NH₃) produced from local dairies to form ammonium nitrate particles, adding to a unique air quality problem in the Project vicinity. Thus, agricultural uses in general and dairy uses specifically are contributing to and causing air quality degradation.

As discussed in Section 5.8 Hydrology/Water Quality, one of the largest point sources of pollutants in the Chino Basin, and including the project site, is dairy operations, and the SARWQCB regulates discharges of dairy waste through NPDES Permit No. CAG018001. This permit restricts the method in which dairies can dispose of wastes (manure and washwater). The SARWQCB requires dairies to contain all washwater and all storm water runoff onsite, with containment facilities designed for the 24-hour, 25-year storm event. It is recognized that higher intensity storms will result in discharge of manure and wash water from the dairies. Wash water is required to be contained onsite and manure must be removed from a facility within 180 days of its removal from corrals, transported and disposed of at regulated disposal and/or composting facilities. Despite these regulatory controls, off-site discharges of wastewater do occur due to inadequate containment and enforcement. Runoff from dairies contains large amounts of manure, urine and other organic materials, and this contaminated runoff from dairies eventually reaches the Santa Ana River. Agricultural land use, and, in particular, dairy operations, have been implicated as a primary source of the high nitrogen and TDS concentrations in Chino Basin ground water. Dairy abandonment will benefit water quality by reducing nitrate and total dissolved solids (TDS) in receiving waters. Assuming

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that 30,000 tons of salts enter Chino Basin ground water per year (California Regional Water Quality Control Board 1995) from disposal of dairy waste, over a total area of 19,300 acres, a salt load reduction to ground water of as much as 825 tons per year may be achieved by implementing the Project and removing the current dairy land use. Furthermore, total coliform pollutant loadings would likely also be reduced as a result of dairy conversion, resulting in further improvement to water quality. Thus, the increased regulations of agricultural operations and the benefits to urban uses of removing especially dairies further supports the unviability of long-term agricultural preservation onsite and within the Chino Basin as a whole.

To mitigate for loss of farmland on a City-wide and cumulative basis, a mechanism could be established to conserve farmland lost to urbanization. Such a program might include a fee established and paid to a non-profit agricultural land conservation organization, or other structure, to ensure that agricultural lands of Prime, Statewide or Unique Importance are conserved within the area. Such a mechanism would appear to reduce significant impacts to agricultural lands in the future. However, as discussed above, economic and environmental factors will preclude the long-term viability of agriculture in the Chino Basin. Likewise, mitigation measures involving conservation easements and other methods of agricultural easement is an easement that is purchased from a willing land owner and which places a permanent deed restriction on the piece of property allowing only agricultural uses on said property. According to Southern California Agricultural Land Foundation representative Mr. Chuck Hale, "while conservation easements may work in other parts of the state, SoCALF does not know of any conservation easements that exist in Southern California because of the unique real estate market in this region, making it an economic disadvantage to a property owner to place property under permanent agricultural use." He also stated that "conservation organizations may find it beneficial to acquire agricultural land in fee and subsequently encumber the land with an agricultural conservation easement. Once encumbered, the fee title to the land can be resold to a conservation buyer." Thus, the process would require purchasing viable agricultural land, recording easements and reselling the land to some entity or individual interested in maintaining the property in agriculture. Finding a willing seller and a conservation buyer are too speculative, thus making such an arrangement infeasible for this project, especially in a region where the economic viability of agriculture is limited. The long-term economic viability of agriculture in the Chino Basin is declining as discussed above. If this approach were taken in the NMC, to be fair, easements for all prime Farmland soils lost (about 2,952 acres) would have to be acquired elsewhere. Therefore, cumulatively, this is also not a feasible approach. In addition, preserving agriculture within the NMC would impede the City from achieving General Plan goals and objectives for housing. Therefore, City-wide farmland preservation was considered infeasible.

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Approximately 200 acres of land that are owned by the County of San Bernardino and managed by the Southern California Agricultural Land Foundation (SoCALF) are located within the NMC to preserve a portion of the approximately 8,200 acres that will be converted in the future. The majority of the 200 acres is designated Prime Farmland and is leased to dairy operators. The SoCALF properties can only be used for agriculture and/or open space, however, the use of 1988 Park Bond Act funds for acquisition and maintenance of the property ensured that the land would be used for agricultural preserve. This land is not considered mitigation for the loss of Prime Farmland on the Project site.

The NMC Final EIR stated that the future loss of agricultural productivity within the NMC is not solely the result of the proposed urbanization of the NMC and that the decline in the economic viability of agricultural operations in the NMC and throughout all of Southern California has accelerated in recent years. The NMC Final EIR further states:

Southern California dairies had the lowest net income based on average amounts per hundredweight of milk and average amounts on a per head basis when compared to San Joaquin Valley, Arizona Holsteins, Arizona Jerseys, Idaho, and New Mexico for the first nine months of 1995. The average net income of southern California dairies declined more than the other five areas from 1993 to 1995. The lower net income for Southern California dairies is attributable to an increase in operating costs, particularly related to feed, without a corresponding increase in price. This trend is expected to continue as a result of the tough competition from the Central Valley and other states.

Consistent with the above description of relatively lower net income from dairy operations in the Chino Basin, the Census of Agriculture: 1987, 1992, 1997, states that total farm production expenses for San Bernardino County increased from \$389 million in 1987 to \$493 million (26.7 percent increase) in 1997. Total market value of agricultural products sold within the County likewise increased from \$489 million in 1987 to \$618 million (26.4 percent increase) for the same time period. Therefore, agricultural uses on small acreages, such as portion of the Project Site, would likely be, or quickly become economically unviable.

Therefore, no feasible onsite or off-site mitigation measures exist.

5.2.10 Level of Significance After Mitigation

Implementation of the proposed project would accelerate the conversion of agricultural lands and agricultural uses within the NMC and in the region. The loss of agricultural lands on the Project Site is

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considered significant and unavoidable as well as being cumulatively considerable from a regional perspective.

5.3 AIR QUALITY

Information in this section is based upon the following documents:

- NMC Final EIR, City of Ontario, 1997. This document is incorporated by reference.
- The Avenue Specific Plan EIR Air Quality Impact Study, Urban Crossroads, August 2006. This document is contained in Appendix C of the Technical Appendices.
- Letter from the South Coast Air Quality Management District dated July 27, 2005. This letter is contained in Appendix A of the Technical Appendices.

The following section of this EIR evaluates the potentially significant impacts to air quality that would result from implementation of the proposed Project.

5.3.1 Existing Conditions

The Project Site is located in the City of Ontario (City), in the County of San Bernardino. This region is within the South Coast Air Basin (SCAB or Basin). The SCAB is bordered on the west by the Pacific Ocean and on the north and east by the San Gabriel, San Bernardino, and San Jacinto Mountains. The South Coast Air Quality Management District (SCAQMD) has jurisdiction over an area of approximately 10,743 square miles, consisting of the four-county Basin (Orange County and the non-desert portions of Los Angeles, Riverside and San Bernardino Counties), and the Riverside County portions of the Salton Sea Air Basin and Mojave Desert Basin. The region is generally impacted by a semi-permanent high pressure zone resulting in a mild, relatively dry climate. The summers are very warm and winters are mild. The average rainfall for the region is approximately 15 inches per year, and typically occurs from October to March. The local wind is generally light, and the dominant wind pattern is onshore during the daytime and offshore at night. The local dominant wind blows from west to east.

The regional and local air quality is significantly affected by the topography, atmospheric inversions, and dominant onshore flows. The mountains surrounding the region form horizontal barriers to the dispersion of air contaminants. Atmospheric inversions act as barriers to the vertical dispersal of air pollutants. The inversions are created where the temperature follows the normal pattern of decreasing temperature increases as the altitude increases. This transition results in a relatively shallow mixing height in the region.

Air pollution created in the coastal areas, and around the Los Angeles area is predominantly transported inland until it reaches the mountains where the combination of mountains and inversion layers generally prevent further dispersion. This poor ventilation results in a gradual degradation of air quality from the

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coastal areas to inland areas. In addition, plentiful sunshine provides the energy to convert oxides of nitrogen and hydrocarbons into ozone and other pollutants.

Pollutants and Sources

The SCAQMD operates an extensive air-monitoring network within the Basin, and they measure the levels for various air pollutants that are used to define ambient air quality. The SCAQMD monitors levels of various criteria pollutants at 30 monitoring stations throughout the air district. In 2005, the Federal and State standards for ozone at most monitoring locations exceeded the threshold on one or more days. No areas of the Basin exceeded Federal or State standards for CO, SO₂, NO₂, sulfates, or lead.

The determination of whether a region's air quality is healthful or unhealthful is determined by comparing contaminant levels in ambient air samples to the State and Federal standards established by the Federal Clean Air Act (CAA) and the California Clean Air Act (AB2595). The air quality in a region is considered to be in attainment if the measured ambient air pollutant levels for O₃, CO, SO₂, NO₂, and PM₁₀ are not exceeded and all other standards are not equaled or exceeded at any time in any consecutive three-year period; and the Federal standards are not exceeded more than once per year.

The SCAQMD, California Air Resources Board (CARB), and the U.S. Environmental Protection Agency (USEPA) have established air quality significance levels and standards which are designed to protect those that are most sensitive to air pollution. These people include those individuals susceptible to respiratory distress such as asthmatics, the young, the elderly, and others with pre-existing health conditions that may be affected by higher levels of pollutant concentrations. Healthy adults can tolerate occasional exposure to air pollutant concentrations above these minimum standards without adverse effects; however, unhealthful responses can occur at levels that are only marginally above these standards.

Categories of Emission Sources

Air pollutant emissions sources are typically grouped into two categories: stationary and mobile sources. These emission categories are defined and discussed below.

Stationary sources are divided into two major subcategories: point and area sources. Point sources consist of a single emission source with an identified location at a facility. A single facility could have multiple-point sources located onsite. Stationary point sources are usually associated with manufacturing and industrial processes. Examples of point sources include boilers or other types of combustion equipment at oil refineries, electric power plants, etc. Area sources are small emission sources that are widely distributed, but are cumulatively substantial because there may be a large number of sources.

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Examples include residential water heaters; painting operations; lawn mowers; agricultural fields; landfills; and consumer products, such as barbecue lighter fluid and hair spray.

Mobile sources are motorized vehicles, which are classified as either on-road or off-road. On-road mobile sources typically include automobiles and trucks that operate on public roadways. Off-road mobile sources include aircraft, ships, trains, and self-propelled construction equipment that operate off public roadways. Mobile source emissions are accounted for as both direct source emissions (those directly emitted by the individual source) and indirect source emissions, which are sources that by themselves do not emit air contaminants but indirectly cause the generation of air pollutants by attracting vehicles. Examples of indirect sources include office complexes, commercial and government centers, sports and recreational complexes, and residential developments.

Air Pollution Constituents

Air pollutants are classified as either primary, or secondary, depending on how they are formed. Primary pollutants are generated daily and are emitted directly from a source into the atmosphere. Examples of primary pollutants include, nitrogen dioxide (NO_2) and nitric oxide (NO), collectively known as oxides of nitrogen (NO_x), carbon monoxide (CO), sulfur dioxide (SO_2), particulates (PM_{10} and $\text{PM}_{2.5}$) and various hydrocarbons (HC) or volatile organic compounds (VOC), which are also referred to as reactive organic gasses (ROG). The predominant source of air emissions generated by the Project is expected to be vehicle emissions. Motor vehicles primarily emit CO, NO_x and VOC/ROG/HC.

Secondary pollutants are created over time and occur within the atmosphere as chemical and photochemical reactions take place. An example of a secondary pollutant is ozone (O_3), which is one of the products formed when NO_x reacts with HC, in the presence of sunlight. Other secondary pollutants include photochemical aerosols. Secondary pollutants such as ozone represent major air quality problems in the SCAB.

The Federal Clean Air Act (1970) established the National Ambient Air Quality Standards (NAAQS). Six "criteria" air pollutants were identified using specific medical evidence available at that time, and NAAQS were established for those chemicals. The State of California has adopted the same six chemicals as criteria pollutants, but has established different allowable levels. The six criteria pollutants are: carbon monoxide, nitrogen dioxide, ozone, lead, atmospheric particulates, and sulfur dioxide. The following is a further discussion of the criteria pollutants, as well as volatile organic compounds.

Carbon Monoxide (CO) – A colorless, odorless toxic gas produced by incomplete combustion of carbon-containing substances. Concentrations of CO are generally higher during the winter months when meteorological conditions favor the build-up of primary pollutants. Automobiles are the major source of CO in the Basin, although various industrial processes also emit CO through incomplete combustion of

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fuels. In high concentrations, it can cause serious health problems in humans by limiting the red blood cells' ability to carry oxygen.

Oxides of Nitrogen (NO_x) – Those that are important in air pollution are nitric oxide (NO) and nitrogen dioxide (NO₂). NO is a colorless, odorless gas formed by a combination of nitrogen and oxygen when combustion takes place under high temperatures and pressures. NO₂ is a reddish-brown gas formed by the combination of NO with oxygen. Combustion in motor vehicle engines, power plants, refineries and other industrial operations, as well as ships, railroads and aircraft, are the primary sources of NO_x. NO₂ at atmospheric concentrations is a potential irritant and can cause coughing in healthy persons, can alter respiratory responsiveness and pulmonary functions in persons with preexisting respiratory illness, and potentially lead to increased levels of respiratory illness in children.

Ozone (O₃) – A colorless toxic gas that irritates the lungs and damages materials and vegetation. During the summer's long daylight hours, plentiful sunshine provides the energy needed to fuel photochemical reactions between NO₂ and VOC which result in the formation of O₃. Conditions that lead to high levels of O₃ are adequate sunshine, early morning stagnation in source areas, high surface temperatures, strong and low morning inversions, greatly restricted vertical mixing during the day, and daytime subsidence that strengthens the inversion layer (all of which are characteristic of the SCAB). Ozone represents the worst air pollution-related health threat in the SCAB as it affects people with preexisting respiratory illness as well reduces lung function in healthy people. Studies have shown that children living within the Basin experience a 10-15% reduction in lung function.

Lead (Pb) - Lead concentrations once exceeded the state and federal air quality standards by a wide margin, but have not exceeded state or federal air quality standards at any regular monitoring station since 1982. Health effects associated with lead include neurological impairments, mental retardation, and behavioral disorders. At low levels, lead can damage the nervous systems of fetuses and result in lowered IQ levels in children. Though special monitoring sites immediately downwind of lead sources recorded very localized violations of the state standard in 1994, no violations have been recorded at these stations since 1996. Unleaded gasoline has greatly contributed to the reduction in lead emissions in the SCAB. Since the proposed Project will not involve leaded gasoline, or other sources of lead emissions, this criteria pollutant is not expected to be a factor with project implementation.

Atmospheric Particulates (PM) – A mixture of fine solid and liquid particles, such as soot, dust, aerosols, fumes and mists. PM₁₀ consists of particulate matter that is 10 microns or less in diameter, and PM_{2.5} (currently not a "criteria pollutant") consists of particulate matter of 2.5 microns or less in size. Both PM₁₀ and PM_{2.5} can be inhaled into the deepest part of the lung, attributing to health effects. The presence of these fine particles by themselves cause lung damage and interfere with the body's ability to

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clear its respiratory tract. Said particles can also act as a carrier of other toxic substances. The sources contributing to particulate matter pollution include road dust, windblown dust, agriculture, construction, fireplaces and wood burning stoves, and vehicle exhaust.

Sulfur Dioxide (SO_2) - A colorless, pungent gas formed primarily by the combustion of sulfur containing fossil fuels, SO_2 can result in temporary breathing impairment in asthmatic children and adults engaged in active outdoor activities. When combined with PM, SO_2 can cause symptoms such as shortness of breath and wheezing and, with long-term exposure, lead to the exacerbation of existing cardiovascular disease and respiratory illnesses. Although SO_2 concentrations have been reduced to levels well below State and Federal standards, further reductions in SO_2 emissions are needed because SO_2 is a precursor to sulfate and PM_{10} .

Reactive Organic Gases/Volatile Organic Compounds (ROG/VOC) - It should be noted that there are no State or Federal ambient air quality standards for VOCs because they are not classified as criteria pollutants. VOCs are regulated, however, because a reduction in VOC emissions reduces certain chemical reactions, which contribute to the formation of ozone. VOCs are also transformed into organic aerosols in the atmosphere, contributing to higher PM_{10} and lower visibility levels. Although health-based standards have not been established for VOCs, health effects can occur from exposures to high concentrations of VOCs because of interference with oxygen uptake. In general, ambient VOC concentrations in the atmosphere, even at low concentrations, are suspected to cause coughing, sneezing, headaches, weakness, laryngitis, and bronchitis. Some hydrocarbon components classified as VOC emissions are thought or known to be hazardous. Benzene, for example, is a hydrocarbon component of VOC emissions that is known to be a human carcinogen.

Monitored Air Quality

The closest long-term air quality monitoring site in relation to the Project for ozone, CO, NO_2 , and particulate sulfates is carried out by the SCAQMD at the Fontana monitoring site located approximately 15 miles from the proposed Project. Data for PM_{10} and $\text{PM}_{2.5}$ were obtained from the Ontario monitoring site located approximately 4.8 miles from the proposed Project. Table 5.3-1 shows the number of days standards were exceeded for the Project Site and vicinity. Standards were exceeded for ozone, PM_{10} , $\text{PM}_{2.5}$.

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Table 5.3-1 Ontario/Fontana Area Air Quality Monitoring Summary (Units Exceeded)

POLLUTANT / STANDARD	2000	2001	2002	2003	2004	2005	Meets Ambient Standards?
Ozone							
1- Hour > 0.09 ppm (days)	36	44	37	65	48	49	NO
8- Hour > 0.07 ppm (days)	XX	XX	XX	XX	54	47	NO
1- Hour > 0.12 ppm (days)	7	13	8	26	7	9	NO
8- Hour > 0.08 ppm (days)	16	31	0	48	28	23	NO
Max. 1-Hour Conc. (ppm)	0.17	0.165	0.159	0.176	0.149	0.150	NO
Carbon Monoxide							
1- Hour > 20 ppm (days)	0	0	0	0	0	0	YES
8- Hour > 9 ppm (days)	0	0	0	0	0	0	YES
Max. 1-Hour Conc. (ppm)	5	4	5	5	3	3	YES
Max. 8-Hour Conc. (ppm)	4.3	3.25	3.3	4.6	2.1	2.0	YES
Nitrogen Dioxide							
1-Hour > 0.25 ppm (days)	0	0	0	0	0	0	YES
Max. 1-Hour Conc. (ppm)	0.12	0.084	0.12	0.12	0.06	0.11	YES
Particulate Sulfate							
24-Hour ≥ 25 ug/m ³ (% samples)	0	0	3	0	0	XX	YES
Max 24-Mon. Conc. (ug/m ³)	10.7	10.7	13.5	11.9	10.8	XX	YES
Inhalable Particulates (PM-10)							
24-Hour > 50 ug/m ³ (days exceeded/sampled)	26/58	27/64	25/61	18/62	17/58	21/56	NO
24-Hour > 150 ug/m ³ (days exceeded/sampled)	0/58	1/64	0/61	0/62	0/58	0/56	NO
Max. 24-Hour Conc. (ug/m ³)	124	166	91	149	93	77	NO
Ultra-Fine Particulates (PM-2.5)							
24-Hour > 65 pg/m ³ (days exceeded/sampled)	2/111	2/113	0/111	3/118	2/112	2/112	NO
Max. 24-Hour Conc. (pg/m ³)	73.4	71.2	64.8	88.9	86.1	87.8	NO
Notes: XX = Data not available from either SCAQMD or CARB							
Source: Urban Crossroads, 2006. <i>The Avenue Specific Plan Air Quality Impact Study, City of Ontario, California</i> , August 16, 2006.							

Regulatory Environment

Local air quality is measured based on ambient air quality standards. The determination of whether air quality is healthful or unhealthy is determined by comparing contaminant levels in ambient air samples to the State and Federal standards.

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Federal Clean Air Act

The 1977 Federal Clean Air Act Amendments stated that designated agencies in any area of the nation not meeting national clean air standards must prepare a plan demonstrating the steps that would bring the area into compliance with national standards by December 31, 1987. The SCAB could not meet the deadline for ozone, nitrogen dioxide, carbon monoxide, or PM₁₀. In the SCAB, the agencies designated to develop regional air quality plans are the SCAQMD and the Southern California Association of Governments (SCAG). The two agencies first adopted an Air Quality Management Plan (AQMP) in 1979 and revised it in 1982 to project attainment of the standards in 2000.

In 1988, because of uncertainty in Federal Clean Air Act reauthorization, the California legislature enacted the California Clean Air Act (CCAA). The CCAA requires the regional emissions be reduced by 5 percent per year, averaged over 3-year periods, until attainment can be demonstrated. In July 1991, the SCAQMD adopted a revised AQMP that was designed to meet the CCAA requirements. The 1991 AQMP deferred the attainment date to 2010, consistent with the 1990 Federal Clean Air Act.

The 1990 Federal Clean Air Act amendments required that all States with airsheds with "serious" or worse ozone problems submit a revision to the State Implementation Plan (SIP). The 1991 AQMP was modified/adapted and submitted as the SCAB portion of the SIP. The 1991 SIP submittal estimated that an 85 percent basin-wide reduction in VOC emissions and a 59 percent reduction in NO_x between 1990 and 2010 were needed to meet Federal clean air standards.

Air Quality Management Plan

A 1997 AQMP was locally adopted. The CARB forwarded this plan on to USEPA for its consideration and recommended approval. The 1997 AQMP was designed to meet both Federal (USEPA) and State (CARB) air quality planning guidelines. Components of the 1997 plan included:

- Demonstration of attainment for ozone, CO, and PM₁₀;
- Updated emissions inventories (1993 base year) of VOC, NO_x, CO, SO_x, and PM₁₀;
- Emissions budgets for future years of the inventoried compounds;
- An updated pollution control strategy; and
- Contingency measures if the plan as presently proposed fails to meet stated timetables.

The 1997 plan was further revised to accelerate the adoption/implementation of 13 control measures. The 1999 SIP Revisions included additional ozone control measures meeting all legal requirements and was approved by USEPA in 2000. Further revisions to the AQMP and SIP occurred in 2002 consisting of two PM₁₀ Attainment Plans for the Coachella Valley and the SCAB. The 2002 revisions were approved by

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USEPA on April 18, 2003 and together with the 1997 plan and 1999 SIP Revisions, constitute the currently adopted SIP for the SCAB.

The 2003 AQMP updates the demonstration of attainment with the Federal standards for ozone and PM₁₀ replaces the 1997 attainment demonstration for the federal CO standard and incorporates significant new scientific data, primarily in the form of updated emissions inventories. The 2003 plan is consistent with and builds upon the approaches taken in the 1997 AQMP and the 1999 and 2002 amendments, and adds new PM₁₀ and ozone control strategies. The 2003 AQMP was approved by the CARB on August 1, 2003 and is currently being reviewed by USEPA.

The AQMP control measures and related emission reduction estimates are based upon emissions projections for a future development scenario derived from land use, population, and employment characteristics defined in consultation with local governments. Accordingly, conformance with the AQMP for development projects is determined by demonstrating compliance with local land use plans and/or population projections. If a proposed project allows for development greater than the planned development, significant air quality impact could occur, even if the incremental impact from a single project is negligible at the regional level. For the purpose of reaching attainment of the State and Federal air quality standard, the AQMP for the SCAB establishes a program of rules and regulations administered by SCAQMD.

SCAQMD Rule 403

The SCAQMD rules and regulations that apply to this project include SCAQMD Rule 403, which governs emissions from fugitive dust. Compliance with this rule is achieved through application of standard best management practices in construction and operation activities, such as application of water or chemical stabilizers to disturbed soils, covering haul vehicles, restricting vehicle speeds on unpaved roads to 15 mph, sweeping loose dirt from paved site access roadways, cessation of construction activity when winds exceed 25 mph, and establishing a permanent, stabilizing ground cover on finished sites. Rule 403 also requires projects that disturb over 50 acres of soil or moves 5,000 cubic yards of material per day to submit to SCAQMD a Fugitive Dust Control Plan.

SCAQMD Rule 1108

SCAQMD Rule 1108 governs the sale, use, and manufacturing of asphalt and limits the VOC content in asphalt used in the SCAB. Although this rule does not directly apply to the Project, it dictates the VOC content of asphalt available for use during construction.

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SCAQMD Rule 1113

SCAQMD Rule 1113 governs the sale, use, and manufacturing of architectural coatings and limits the VOC contents in paints and paint solvents. Although this rule does not directly apply to the Project, it dictates the VOC content of paints available for use in the construction of buildings.

CO Hotspots

Dairies typically emit VOCs, ammonia, hydrogen sulfide, and methane from manure decomposition, NO_x and VOCs from equipment operations, and PM₁₀ from dairy-related farming activities. Local emission sources include: stationary activities, such as space and water heating, landscape maintenance, and consumer products, as well as mobile sources, especially motor vehicles. Motor vehicles are the primary source of pollutants within the project vicinity. Traffic congested highways are especially likely to generate high levels of CO. Localized areas where ambient concentrations of CO exceed State and/or Federal standards are called CO "hotspots." Section 9.4 of the SCAQMD CEQA Air Quality Handbook (1993) identifies CO as a localized problem requiring additional analysis when a project is likely to subject sensitive receptors, such as residences and schools, to CO hotspots.

Four local intersections on the Project Site required CO hotspot analysis. These intersections are:

- Archibald Avenue (NS) at Edison Avenue (EW);
- Euclid Avenue (NS) at Edison Avenue (EW);
- Vineyard Avenue(NS) at Riverside Drive (EW); and
- Archibald Avenue (NS) at Chino Avenue (EW).

The results of the CO hotspot analysis conducted for the Project is discussed in Section 5.3.7 below.

5.3.2 Issues Identified During Public Scoping Meeting

During the scoping meeting, statements were made about the odors produced by the dairies and if homes would be located near active dairies. With the exception of objectionable odors caused by dairy operations, no other concerns regarding air quality were voiced at the scoping meeting.

5.3.3 Issues Identified in NOP and Amended NOP Response Letters

The South Coast Air Quality Management District (SCAQMD) sent response letters, dated July 27, 2005 and May 31, 2006 and included in Appendix A of this EIR, in response to the original and amended Project NOPs. The SCAQMD requested a copy of the Project Draft EIR and any supporting air quality analyses. The SCAQMD recommends methods and specific analysis software to be integrated during the EIR's air quality analysis. The SCAQMD identifies information that is available that will help in the

completion of air quality analysis and the development of mitigation measures. The Project and the analysis contained herein adhere to the SCAQMD directives included in the NOP response letters.

5.3.4 Thresholds of Significance

The following criteria for establishing the significance of potential impacts on air quality are derived from the CEQA guidelines (Appendix G) and the City's Initial Study Checklist. A significant impact would occur if the proposed Project would:

- Conflict with or obstruct implementation of the applicable air quality plan
- Violate any air quality standard or contribute substantially to an existing or protected air quality violation
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non attainment under an applicable Federal or State ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)
- Expose sensitive receptors to substantial pollutant concentrations; or
- Create objectionable odors affecting a substantial number of people

State CEQA Guidelines define a significant effect on the environment as "a substantial, or potentially substantial, adverse change in the environment." In order to determine if a proposed project would have a significant impact on the air quality, the types and levels of emissions generated by the proposed project, as well as their impacts must be evaluated.

While the final determination of whether or not a proposed project will have a significant impact belongs to the lead agency, the SCAQMD recommends that the following thresholds be used by lead agencies to determine whether the proposed project could result in a significant impact. If the proposed project is found to exceed these values, the project should be considered significant. These thresholds have been defined for the SCAB based on scientific data the SCAQMD has obtained as well as factual data within the Federal and State Clean Air Acts. The proposed Project is within the SCAB and, therefore, these thresholds are considered valid and reasonable, and will be used to more specifically evaluate impacts.

5.3.5 Project Compliance with Existing Regulations

The AQMP for the SCAB establishes a program of rules and regulations directed at attainment of the State and national air quality standards. The AQMP control measures and related emission reduction estimates are based upon emissions projections for a future development scenario derived from land use, population, and employment characteristics defined in consultation with local governments.

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SCAQMD rules and regulations that apply to this project include SCAQMD Rule 403, which governs emissions of fugitive dust. Compliance with this rule is achieved through:

- Application of standard best management practices in construction and operation activities, such as application of water or chemical stabilizers to disturbed soils;
- Covering haul vehicles, restricting vehicle speeds on unpaved roads to 15 mph;
- Sweeping loose dirt from paved site access roadways;
- Cessation of all ground disturbance construction activities when winds exceed 25 mph; and
- Establishment of a permanent, stabilizing ground cover on finished sites.

Rule 403 also requires projects that disturb 50 acres or more of soil or move 5,000 cubic yards of materials per day to submit a Fugitive Dust Control Plan or a Large Operation Notification Form to SCAQMD. Based on the size this Project, a Fugitive Dust Control Plan or Large Operation Notification would be required.

SCAQMD Rule 1113 governs the sale of architectural coatings and limits the VOC content in paints and paint solvents available for use during the construction of buildings.

The City requires a permit for activities greater than one acre in size that will cause the release of wind blown sand. Application for the permit will be made to the Building Official on City forms. The current fee for non-agricultural activities is \$250 plus \$5 per acre for each acre over 10 acres (Section 2, Ordinance 2138, as amended by Section 1, Ordinance 2548). The Building Official sets the standards to minimize wind erosion. The Project will be required to comply with this City policy and permit requirement.

5.3.6 Design Considerations

The Project includes bike paths and pedestrian walkways connecting areas within the NMC as a whole. The project includes elements designed to encourage residents of the Project to use alternate modes of transportation instead of relying only on their vehicles, thus reducing the air quality emissions from Project operation. However, the reduction is not quantifiable; therefore, it is not reflected in reductions in any of the following analysis.

5.3.7 Project Impacts

The SCAQMD has developed significance thresholds based on the volume of each pollutant emitted. Any projects in the SCAQMD with daily emissions that exceed any of the following thresholds listed in Table 5.3-2 should be considered as having an individually and cumulatively significant air quality impact.

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Emissions resulting from the operation of the proposed Project may also be considered significant if a CO hotspot analysis determines that Project-generated emissions cause a localized violation of the State CO 1-hour standard of 20 parts per million (ppm), State 8-hour standard of 9 ppm, Federal CO 1-hour standard of 35 ppm, or federal CO 8-hour standard of 9.5 ppm within one-quarter mile of a sensitive receptor.

Table 5.3-2 Maximum Daily Emissions Thresholds

Pollutant	Construction	Operational
NO _x	100 lbs/day	55 lbs/day
VOC	75 lbs/day	55 lbs/day
Pollutant	Construction	Operational
PM ₁₀	150 lbs/day	150 lbs/day
SO _x	150 lbs/day	150 lbs/day
CO	550 lbs/day	550 lbs/day

Other than the potential for the Project to generate a CO “hotspot” and the potential to be subjected to objectionable odors, the other above mentioned screening criteria were not exceeded for the Project. Therefore, impact significance relates mainly to SCAQMD’s CEQA Air Quality Handbook numerical emissions thresholds identified in Table 5.3-2 and Localized Significance Thresholds (LSTs).

LSTs represent the maximum emissions from a project that are not expected to cause or contribute to exceeding the most stringent applicable Federal or State ambient air quality standard. A LST analysis was preformed for demolition, rough grading, construction, and operational activity for the proposed Project. Table 5.3-3 provides a summary of localized significance thresholds for the Project.

Table 5.3-3 Localized Significance Thresholds

Pollutant	Construction*	Operational*
NO _x	438 lbs/day	438 lbs/day
CO	2,244 lbs/day	2,244 lbs/day
PM ₁₀	49 lbs/day	12 lbs/day

* Allowable emissions (lbs/day) as a function of receptor distance (150 feet) from site boundary.

Implementation of the proposed Project would result in various air emissions from a variety of stationary and mobile sources. The Project would produce emissions during two distinct stages: short-term construction and long-term daily operations. During the short-term construction stage, emissions will be generated by onsite construction equipment, offsite vehicles used to make deliveries to the site, and

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construction workers commuting to and from the site. Emissions from the Project site during construction are considered short-term impacts and include fugitive emissions from site preparation and earthmoving as well as gaseous emissions from construction equipment and on-road travel by workers.

Once the residential units are occupied, and the school and commercial components are in operation, emissions will be generated by long-term, ongoing daily activities and include stationary sources such as emissions from the use of natural gas within the residential units, gasoline driven landscape equipment, and consumer products. Long-term mobile sources include vehicular traffic associated with the residents and employees of the Project, including commuting to employment locations, shopping, and other vehicular trips. Mobile sources are the primary long-term source of air quality impacts.

Emissions from Short-Term Construction Activities

Construction emissions can be caused by onsite or offsite emissions. Onsite emissions principally consist of exhaust emissions (NO_x , SO_x , CO, VOC, and PM_{10}) from heavy-duty construction equipment, motor vehicle operation, and fugitive dust (PM_{10}) from disturbed soil. Offsite emissions are principally caused by motor vehicle exhaust from delivery vehicles, as well as worker traffic, but also include road dust (PM_{10}).

Major construction-related activities include the following:

- Demolition;
- Grading and clearing;
- Excavation and earth moving for infrastructure construction of the utilities, channel, and dwelling unit and other building foundations and footings;
- Asphalt paving of access roads throughout the development; and
- Application of architectural coatings for things such as dwelling stucco and interior painting.

Construction equipment such as scrapers, dozers, forklifts, backhoes, and water trucks are expected to be used on the Project Site and will result in emissions consisting of CO, NO_x , VOC, SO_x , and PM_{10} . Other equipment that would be used during the finishing phase, paving operations, and application of architectural coatings and other building materials will release VOC emissions. Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of operation, and prevailing weather conditions.

Construction emission analysis was performed by using the CARB URBEMIS 2002 emissions inventory model (Urban Crossroads, 2006b). This model separates the construction process into three distinct phases: demolition, site grading, and building construction. The model quantifies daily emissions for

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each phase for the various pollutants. The model output is included in the Air Quality Impact Study (Urban Crossroads, 2006b), found in Appendix C of this EIR.

Table 5.3-4 provides a summary of estimated maximum daily construction emissions, both unmitigated and mitigated. For the purpose of this analysis, construction activity was estimated to occur from December 2006 through 2015. A “worst-case” phase of demolition, rough grading, underground utility construction, paving, and architectural coatings was analyzed, however these activities will not necessarily be conducted on the same day.

**Table 5.3-4 Emissions Summary of Peak Construction Activities (Pounds Per Day)
(Unmitigated/Mitigated)**

Construction Activities	VOC	NOx	CO	SOx	PM ₁₀
Demolition	12.12/11.52	180.43/164.45	165.69/165.69	0/0	5.45/3.03
Peak Day Demolition Emissions	12.12/11.52	180.43/164.45	165.69/165.69	0/0	5.45/3.03
Significance Threshold	75	100	550	150	150
Significant?	NO	YES	NO	NO	NO
Grading Activity	116.05/110.74	1005.74/874.27	1002.34/959.69	0.4/0.4	1092.48/200.92
Underground Utility Construction	16.31/15.49	125.79/105.77	142.75/136.24	0.001/0.01	4.43/1.75
Peak Day Grading and Underground Utility Construction Emissions	132.36/126.23	1131.53/980.04	1145.09/1095.93	0.41/.041	1096.91/202.67
Significance Threshold	75	100	550	150	150
Significant?	YES	YES	YES	NO	YES
Architectural Coatings	600.66/241.23	3.65/3.65	34.88/34.88	0.02/0.02	0.08/0.08
Paving Emissions	58.99/56.10	354.65/290.28	490.29/465.96	0.01/0.01	11.91/4.26
Peak Day Architectural Coating and Paving Emissions	659.65/297.33	358.30/293.93	525.17/500.84	0.03/0.03	11.99/4.34
Significance Threshold	75	100	550	150	150
Significant?	YES	YES	NO	NO	NO

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Assuming the worst case conditions, the Project will result in emissions, either unmitigated or mitigated, that would exceed all regional emissions thresholds established by SCAQMD with the exception of SO_x. The proposed Project will not exceed LSTs for emissions of CO during construction; however, the Project will exceed NO_x and PM₁₀ emissions during construction activity. This is considered a significant impact.

Emissions from Long-Term Operational Activities

Long-term operational emissions are also associated with the Project. The sources for these emissions are both stationary and mobile. These long-term activities include stationary sources such as emissions from the use of natural gas within the residential units, schools, and commercial/retail uses, gasoline driven landscape equipment, and consumer products. Long-term mobile sources include vehicular traffic associated with the residents and employees of the Project, including commuting to employment locations, shipping, and other vehicular trips. The operational emissions for the entire proposed Project, including the residential and commercial components, were evaluated using URBEMIS 2002.

Operational activities associated with the proposed Project will result in emissions of ROG, NO_x, CO, PM₁₀, and SO_x. Operational emissions would be expected from the following equipment and activities:

- Vehicle emissions;
- Fugitive dust related to vehicle travel;
- Combustion emissions associated with natural gas use;
- Landscape maintenance equipment emissions;
- Emissions from consumer products; and
- Architectural coatings.

In order to evaluate the air quality impact from motor vehicles, the estimated number of vehicle trips and miles traveled were obtained from the Traffic Impact Study (Urban Crossroads, 2006a) contained in Appendix I of this EIR. Project operational (vehicular) impacts are dependent on both overall daily vehicle trip generation and the effect of the Project on peak hour traffic volumes and traffic operations in the vicinity of the Project. The Project-related operational air quality impact centers on the 31,876 new vehicle trips generated by the Project.

Vehicles traveling on paved roads would be a source of fugitive emissions due to the generation of road dust. Combustion emissions would be generated by the use of natural gas in the development. Landscape maintenance equipment would generate emissions from fuel combustion and evaporation of unburned fuel. Equipment in this category would include lawnmowers, trailers, shredders/grinders,

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blowers, trimmers, chain saws, and hedge trimmers used to maintain the landscaping within the Project Site. The emissions estimates for fugitive dust, natural gas use, and landscape maintenance used assumptions from the URBEMIS 2002 model.

Consumer products include, but are not limited to detergents, cleaning compounds, polishes, personal care products, and lawn and garden products. Many of these products contain organic compounds which when released into the atmosphere can react to form ozone and other photochemically reactive pollutants.

The Air Quality Impact Study conservatively estimated that approximately ten percent of the buildings built as part of the Project would be repainted per year. Emissions calculated for the evaporation of solvents namely included architectural coatings such as paints, varnishes, primers, and other surface coatings as part of Project maintenance.

The Project-related peak operational emissions, both unmitigated and mitigated for summer and winter, are summarized in Tables 5.3-5 and 5.3-6 below.

**Table 5.3-5 Summary of Peak Summer Operations Emissions (Pounds Per Day)
(Unmitigated/Mitigated)**

Operational Activities	VOC	NOx	CO	SOx	PM₁₀
Vehicle Emissions	165.8/163.23	149.69/146.48	1647.75/1612.38	2.01/1.97	306.43/299.86
Natural Gas Use	3.88/3.15	50.46/40.97	22.72/18.68	0/0	0.01/0.08
Landscape Maintenance Emissions	8.72/8.72	1.14/1.14	69.62/69.62	0.44/0.44	0.23/0.23
Consumer Products	113.50/113.50	0/0	0/0	0/0	0/0
Architectural Coatings	81.21/81.21	0/0	0/0	0/0	0/0
Total Operational Emissions	373.11/369.81	201.29/188.59	1740.09/1700.68	2.45/2.41	306.76/300.17
Operations Significance Threshold	55	55	550	150	150
Significant?	YES	YES	YES	NO	YES

Source: URBEMIS 2002 V 8.7.0

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**Table 5.3-6 Summary of Peak Winter Operations Emissions (Pounds Per Day)
(Unmitigated/Mitigated)**

Operational Activities	VOC	NOx	CO	SOx	PM ₁₀
Vehicles Emissions	134.83/131.99	215.02/210.41	1552.47/1519.17	1.63/1.59	306.43/299.86
Natural Gas Use	3.88/3.15	50.46/40.97	22.72/18.68	0/0	0.1/0.08
Fireplace	1.11/1.11	18.91/18.91	8.05/8.05	0.12/0.12	1.53/1.53
Consumer Products	113.50/113.50	0/0	0/0	0/0	0/0
Architectural Coatings	81.21/81.21	0/0	0/0	0/0	0/0
Total Operational Emissions	334.53/330.96	284.39/270.29	1583.24/1545.90	1.75/1.71	308.06/301.47
Operations Significance Threshold	55	55	550	150	150
Significant?	YES	YES	YES	NO	YES

Source: URBEMIS 2002 V 8.7.0

As indicated in Tables 5.3-5 and 5.3-6 above, the Project will result in operational emissions, either unmitigated or mitigated for both summer and winter, that would exceed all regional emissions thresholds established by SCAQMD with the exception of SOx. The proposed Project will not exceed LSTs for emissions of CO and NOX during operations; however, PM₁₀ emissions will be exceeded. This is considered a significant impact.

Health Risk Assessment

A health risk assessment (HRA) was not performed for the Project due to the uncertainty of the future land uses associated with the Project's proposed commercial sites. In order to perform an HRA, numerous assumptions would have to be drawn, and thus, the results would be speculative at best. However, the CARB Air Quality and Land Use Handbook (2005), provides specific recommendations on siting new sensitive land uses. Sensitive land uses include new residences, schools, day care centers, playgrounds, and medical facilities. Sensitive land uses deserve special attention because children, pregnant women, the elderly, and those with existing health problems are especially vulnerable to the non-cancer effects of air pollution. There is also substantial evidence that children are more sensitive to cancer-causing chemicals.

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Unlike industrial and other stationary sources of air pollution, the siting of new homes or day care centers does not require an air quality permit. Since these situations fall outside the air quality permitting process, it is especially important that land use agencies be aware of potential air pollution impacts. Among the sensitive land use categories identified in the CARB Air Quality and Land Use Handbook (2005), dry cleaners and large gas dispensing facilities (GDFs) (i.e., gas stations) could potentially be proposed for the commercial sites of the Project. Other categories identified by CARB, but would not be related to the Project, include refineries, rail yards, and ports.

In developing the recommendations for sensitive land uses, CARB first considered the adequacy of the data available for each air pollution source category. They assessed whether they could generally characterize the relative exposure and health risk from a proximity standpoint. The documented non-cancer health risks include triggering hospitalization for heart and respiratory diseases. These health impacts are well documented in epidemiological studies, but less easy to quantify from a particular air pollution source. For cancer health effects, risk is expressed as an estimate of the increased chances of getting cancer due to facility emissions over a 70-year lifetime. This increase in risk is expressed as chances in a million (e.g., 10 in a million).

In evaluating the available information, CARB also considered the practical implications of making hard and fast recommendations where the potential impact area is large, emissions will be reduced with time, and air agencies are in the process of looking at options for additional emission control. Due to the large variability in relative risk between the source categories, CARB chose not to apply a uniform, quantified risk threshold as is typically done in regulatory programs. Therefore, in the end, they tailored their recommendations to minimize the highest exposures for each source category independently. Additionally, because this guidance is not regulatory or binding on local agencies, they took a more qualitative approach to developing distance based recommendations.

The recommendations were developed from the standpoint of siting new sensitive land uses. CARB's recommendations are designed to fill a gap where information about proposed facilities may not be readily available. This is the case with the proposed Project. These recommendations are only guidelines and are not designed to substitute for more specific information if it exists or becomes available.

It should be noted that CARB does not imply that mixed residential and commercial development in general is incompatible. Rather it focuses on known problems like dry

cleaners using perchloroethylene (Perc) that can be addressed with reasonable preventative actions.

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Dry Cleaners Using Perchloroethylene (Perc Dry Cleaners)

Perc is the solvent most commonly used by the dry cleaning industry to clean clothes or other materials. The ARB and other public health agencies have identified Perc as a potential cancer-causing compound. Perc persists in the atmosphere long enough to contribute to both regional air pollution and localized exposures. Perc dry cleaners are the major source of Perc emissions in California. Since 1990, the statewide concentrations and health risk from exposure to Perc has dropped over 70%. This is due to a number of regulatory requirements on Perc dry cleaners and other sources, including degreasing operations, brake cleaners, and adhesives. CARB adopted an Airborne Toxic Control Measure (ATCM) for Perc Emissions from Dry Cleaning Operations in 1993. CARB has also prohibited the use of Perc in aerosol adhesives and automotive brake cleaners. Perc dry cleaners statewide are required to comply with ARB and local air district regulations to reduce emissions. However, even with these controls, some emissions continue to occur. Air quality studies indicate that there is still the potential for significant risks even near well-controlled dry cleaners. The SCAQMD has adopted a rule requiring that all new dry cleaners use alternatives to Perc and that existing dry cleaners phase out the use of Perc by December 2020. Over time, transition to non-toxic alternatives should occur. However, while Perc continues to be used, a preventative approach should be taken to siting new sensitive land uses.

Key Health Findings

Inhalation of Perc may result in both cancer and non-cancer health effects. An assessment by California's Office of Environmental Health Hazard Assessment (OEHHA) concluded that Perc is a potential human carcinogen and can cause non-cancer health effects. In addition to the potential cancer risk, the effects of long-term exposure include dizziness, impaired judgment and perception, and damage to the liver and kidneys. Workers have shown signs of liver toxicity following chronic exposure to Perc, as well as kidney dysfunction and neurological effects. Non-cancer health effects occur with higher exposure levels than those associated with significant cancer risks. The public is more likely to be exposed to Perc at levels causing significant cancer risks than to levels causing non-cancer health effects. The CARB formally identified Perc as a toxic air contaminant in October 1991.

One study has determined that inhalation of Perc is the predominant route of exposure to infants living in apartments co-located in the same building with a dry cleaning plant. Results of air sampling within co-residential buildings indicate that dry cleaners can cause a wide range of exposures depending on the type and maintenance of the equipment. For example, a well-maintained state-of-the-art system may have risks in the range of 10 in one million, whereas a badly maintained machine with major leaks can have potential cancer risks of thousands in one million. The California Air Pollution Control Officers Association (CAPCOA) is developing Industry-wide Risk Assessment Guidelines for Perchloroethylene Dry Cleaners which, when published, will provide detailed information on public health risk from exposure to emissions from this source.

Distance Related Findings

Risk created by Perc dry cleaning is dependent on the amount of Perc emissions, the type of dry cleaning equipment, proximity to the source, and how the emissions are released and dispersed (e.g., type of ventilation system, stack parameters, and local meteorology). Dry cleaners are often located near residential areas, and near shopping centers, schools, day-care centers, and restaurants.

The vast majority of dry cleaners in California have one dry cleaning machine per facility. The SCAQMD estimates that an average well-controlled dry cleaner uses about 30 to 160 gallons of cleaning solvent per year, with an average of about 100 gallons. Based on these estimates, the SCAQMD estimates a potential cancer risk between 25 to 140 in one million at residential locations 75 feet or less from the dry cleaner, with an average of about 80 in one million. The estimate could be as high as 270 in one million for older machines.

In California, a small number of dry cleaners that are co-located (sharing a common wall, floor, or ceiling) with a residence have the potential to expose the inhabitants of the residence to high levels of Perc. However, while special requirements have been imposed on these existing facilities, the potential for exposure still exists. Avoiding these siting situations in the future is an important preventative measure. Local air districts are a source of information regarding specific dry cleaning operations—particularly for large industrial operations with multiple machines. Local air district studies indicate that individual cancer risk can be reduced by as much as 75% by establishing a 300 foot separation between a sensitive land use and a one machine Perc dry cleaning operation. This assessment is based on a single machine with Perc use of about 100 gallons per year. At these distances, the potential cancer risk would be less than 10 potential cases per million for most scenarios.

For larger operations (2 machines or more), a separation of 500 feet can reduce risk by over 85%. These facilities typically use 200 gallons or more of Perc per year. While CARB recommends 500 feet when there are two or more machines, site specific information should be obtained from the local air district for some very large industrial operations. Factors that can impact the risk include the number and type of machines, controls used, source configuration, building dimensions, terrain, and meteorological data.

CARB siting recommendations for dry cleaners using Perc include:

- Avoid siting new sensitive land uses within 300 feet of any dry cleaning operation.
- For operations with two or more machines provide 500 feet.
- For operations with 3 or more machines, consult with the local air district.
- Do not site new sensitive land uses in the same building with Perc dry cleaning operations.

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Gasoline Dispensing Facilities

Refueling at GDFs releases benzene into the air. Benzene is a potent carcinogen and is one of the highest risk air pollutants regulated by CARB. Motor vehicles and motor vehicle-related activity account for over 90% of benzene emissions in California. While gasoline-dispensing facilities account for a small part of total benzene emissions, near source exposures for large facilities can be significant. Since 1990, benzene in the air has been reduced by over 75% Statewide, primarily due to the implementation of emissions controls on motor vehicle vapor recovery equipment at gas stations, and a reduction in benzene levels in gasoline. However, benzene levels are still significant. In urban areas, average benzene exposure is equivalent to about 50 in one million. GDFs tend to be located in areas close to residential and shopping areas. Benzene emissions from the largest gas stations may result in near source health risk beyond the regional background and district health risk thresholds. The emergence of very high gasoline throughput at large retail or wholesale outlets makes this a concern as these types of outlets are projected to account for an increasing market share in the next few years.

Key Health Findings

Benzene is a human carcinogen identified by ARB as a toxic air contaminant. Benzene also can cause non-cancer health effects above a certain level of exposure. Brief inhalation exposure to high concentrations can cause central nervous system depression. Acute effects include central nervous system symptoms of nausea, tremors, drowsiness, dizziness, headache, intoxication, and unconsciousness. It is unlikely that the public would be exposed to levels of benzene from GDFs high enough to cause these non-cancer health effects.

Distance Related Findings

A well-maintained vapor recovery system can decrease emissions of benzene by more than 90% compared with an uncontrolled facility. Almost all facilities have emission control systems. Air quality modeling of the health risks from gasoline dispensing facilities indicate that the impact from the facilities decreases rapidly as the distance from the facility increases. CARB's staff reports on Enhanced Vapor Recovery released in 2000 and 2002 indicated that almost 96% of the GDFs had a throughput less than 2.4 million gallons per year. The remaining 4%, or approximately 450 facilities, had throughputs exceeding 2.4 million gallons per year. For these stations, the average gasoline throughput was 3.6 million gallons per year. The risk level for a GDF with a throughput of 3.6 million gallons per year is about 10 in one million at a distance of 50 feet from the property line. However, as the throughput increases, the potential risk increases.

As mentioned above, air pollution levels in the immediate vicinity of large GDFs may be higher than the surrounding area (although tailpipe emissions from motor vehicles dominate the health impacts). Large GDFs located at large wholesale and discount centers may dispense nine million gallons of gasoline per year or more. At nine million gallons, the potential risk could be around 25 in one million at 50 feet,

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dropping to about five in one million at 300 feet. Some facilities have throughputs as high as 19 million gallons.

CARB siting recommendations for gasoline dispensing facilities include:

- Avoid siting new sensitive land uses within 300 feet of a large GDF (defined as a facility with a throughput of 3.6 million gallons per year or greater).
- A 50 foot separation is recommended for typical gas dispensing facilities.

It should be noted that the recommendations listed above for both dry cleaners and GDFs are advisory. Land use agencies have to balance other considerations, including housing and transportation needs, economic development priorities, and other quality of life issues. Recommendations are based primarily on data showing that the air pollution exposures addressed here (i.e., localized) can be reduced as much as 85% with the recommended separation. However, to determine the actual risk near a particular facility, a site-specific analysis would be required. Site-specific project design improvements may help reduce air pollution exposures and should also be considered when siting new sensitive land uses. Mitigation Measure AQ-11 requires the preparation of an HRA in the event a dry cleaning or gasoline dispensing facility is proposed for the Project's commercial sites. Impacts associated with these potential land uses will, therefore, be reduced to less than significant.

Mobile Sources

A health risk assessment was not conducted for mobile sources. The SCAQMD recommends to lead agencies/project proponents that a mobile source health risk assessment be prepared for projects generating or attracting heavy-duty diesel-fueled vehicles. In general, projects with primarily residential uses are typically associated with passenger cars and therefore diesel emissions are considered less than significant. In terms of the Project's proposed commercial uses, most general commercial uses are not associated with heavy diesel truck traffic on a daily basis. Although most general commercial uses have weekly deliveries that may be by diesel trucks, these activities are not typically characterized by SCAQMD as "heavy diesel truck traffic." According to SCAQMD, "there is no diesel truck threshold for health risk since cancer health risk is dependent on source characteristics (source representation, travel distance, idling time, size of truck, date manufactured), receptor distance, meteorology, etc. It is up to the lead agency/project proponent to quantify and demonstrate whether the health risk is significant." (Personal Communication, James Koizumi, AQMD, September 21, 2006). Mitigation Measure AQ-12 requires the preparation of an HRA for mobile sources once the commercial uses are determined and heavy diesel truck traffic can be projected. Potential impacts associated with mobile sources will, therefore, be reduced to less than significant.

Secondary Effects Evaluation

The Project has the potential to generate objectionable odors, which has been recommended by CEQA Guidelines as a threshold of significance criterion. Although the Project does not contain land uses typically associated with emitting objectionable odors, the Project will be developed on current agricultural uses. During construction activity there is the potential for surrounding residents to be affected by objectionable odors that would be generated during the removal of organic waste; however, these would be short-term during construction activities. Residents of the proposed Project could have the potential to be affected by continued agricultural uses in the vicinity. Nevertheless, over time agricultural uses will diminish as urban development continues in the region. Additionally, Project Mitigation Measure AG-1 requires a deed disclosure to reduce conflicting issues between sensitive receptors and agricultural uses. The disclosure will inform new residents that existing agricultural uses may create nuisances including objectionable odors. Impacts related to objectionable odors are, therefore, considered less than significant.

Additionally, sensitive receptors have the potential to be affected by dust generated during short-term construction activities. However, these effects will be reduced to less than significant levels with proper compliance with SCAQMD Rule 403 and implementation of NMC Mitigation Measure AQ-1. As previously described, Rule 403 requires projects that disturb 50 acres or more of soil or move 5,000 cubic yards of materials per day to submit a Fugitive Dust Control Plan or a Large Operation Notification Form to SCAQMD. Based on the size this Project, a Fugitive Dust Control Plan or Large Operation Notification would be required. NMC Mitigation Measure AQ-1 provides for further mitigation to ensure the creation of fugitive dust during construction activities remain below the level of significance.

Significant impacts associated with odors and fugitive dust generation, therefore, are not anticipated with Project implementation.

CO Hotspot Analysis

Carbon monoxide (CO) is a localized problem requiring additional analysis beyond total project emissions to determine if a project can cause or contribute to exceeding Federal or State ambient air quality standards. Intersections with the highest potential for CO hotspot formation required analysis based on their average delay, high project-related traffic volumes, and the proximity of intersections to sensitive receptors. The following intersections required a CO hotspot analysis:

- Archibald Avenue (NS) at Edison Avenue (EW);
- Euclid Avenue (NS) at Edison Avenue (EW);

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- Vineyard Avenue(NS) at Riverside Drive (EW); and
- Archibald Avenue (NS) at Chino Avenue (EW).

Per California Air Quality Standards for CO, the concentration of CO should not exceed 9.0 parts per million (ppm) for an averaging period of 8 hours and 20 ppm for any 1 hour period. Tables 5.3-7 and 5.3-8 present the PM 8-hour and peak hour (1-Hour) CO concentration for Project build-out conditions.

Table 5.3-7 Project Build-out Conditions Carbon Monoxide (CO) Hotspot Levels (8-Hour Average)

Intersection	8-Hour Average	Exceeds Threshold?
Archibald Avenue (NS) at Edison Avenue (EW)	3.24	NO
Euclid Avenue (NS) at Edison Avenue (EW)	3.24	NO
Vineyard Avenue(NS) at Riverside Drive (EW)	3.31	NO
Archibald Avenue (NS) at Chino Avenue (EW)	1.70	NO

Table 5.3-8 Project Build-out Conditions Carbon Monoxide (CO) Hotspot Levels (Peak Hour)

Intersection	AM	PM	Exceeds Threshold?
Archibald Avenue (NS) at Edison Avenue (EW)	5.80	6.20	NO
Euclid Avenue (NS) at Edison Avenue (EW)	6.10	6.20	NO
Vineyard Avenue(NS) at Riverside Drive (EW)	5.00	6.30	NO
Archibald Avenue (NS) at Chino Avenue (EW)	5.50	5.70	NO

Based on the results of the Air Quality Impact Analysis (Urban Crossroads, 2006b), none of the intersection analyses are projected to experience CO levels in excess of the allowable concentrations. Therefore, no significant impacts are anticipated to occur with respect to CO hotspots at any of the locations in the Project vicinity as a result of the proposed Project. Consequently, sensitive receptors would not be significantly affected by CO emissions generated by Project-related traffic.

5.3.8 Cumulative Impacts

Implementation of the proposed Project and the remaining future development planned for the NMC would increase air pollution emissions in the SCAB as identified in the NMC General Plan and the air

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quality analysis contained in this EIR. Analysis of the estimated short- and long-term emissions from this Project shows that emissions of VOC, NOx, CO, and PM₁₀ during construction and operation will exceed SCAQMD daily thresholds.

When considering the cumulative effects on air quality in the region, it is the long-term operational emissions that are of the most concern. Vehicular emissions from project-generated traffic are the main contributor to criteria pollutant emissions. Since the portion of the SCAB within which the Project is located is designated as a non-attainment area for ozone, CO, PM_{2.5}, and PM₁₀ under Federal standards, and as a non-attainment area for ozone, PM_{2.5}, and PM₁₀ under State standards. Additionally, as stated above, the operational emissions from the Project will exceed the SCQAMD daily thresholds. Since the proposed Project will result in significant impacts to air quality on an individual basis, it is appropriate to conclude that the Project in combination with other related projects in the vicinity would be cumulatively considerable and unavoidable and will require a statement of overriding considerations. The NMC General Plan Final EIR was certified with overriding consideration findings related to the cumulative negative impact on regional air quality. It should be noted, however, no new issues have been raised by this Project which were not considered in the NMC General Plan Final EIR including potential conflicts with the SCAB AQMP. Since the Project will be developed with land uses in accordance with the NMC General Plan, the Project is in compliance with the AQMP.

5.3.9 Mitigation Measures

The Air Quality section of the NMC Final EIR stated that the NMC General Plan outlines air quality measures that serve to reduce overall emissions in the City. In addition to the measures and guidelines contained in the NMC General Plan, the NMC Final EIR included a single air quality mitigation measure; NMC Mitigation Measure AQ-1 is as follows:

NMC Mitigation Measures

Construction/Short-Term Mitigation

NMC AQ-1 Per SCAQMD Rule 403, the City shall enforce the following (regardless of whether the project is General Plan level or project specific):

- During all construction activities, construction contractors shall use low emission mobile construction equipment where feasible to reduce the release of undesirable emissions.
- During all construction activities, construction contractors shall encourage rideshare and transit programs for project construction personnel to reduce automobile emissions.

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- During all grading and site disturbance activities, construction contractors shall water active grading sites at least twice a day, and clean construction equipment in the morning and/or evening to reduce particulate emissions and fugitive dust.
- During all construction activities, construction contractors shall, as necessary, wash truck tires leaving the site to reduce the amount of particulate matter transferred to paved streets as required by SCAQMD Rule 403.
- During all construction activities, construction contractors shall sweep on and offsite streets if silt is carried over to adjacent public thoroughfares, as determined by the City Engineer to reduce the amount of particulate matter on public streets.
- During all construction activities, construction contractors shall limit traffic speed on all unpaved road surfaces to 15 miles per hour or less to reduce fugitive dust.
- During grading and all site disturbance activities, at the discretion of the City's Planning Director, construction contractors shall suspend grading operations during first and second stage smog alerts to reduce fugitive dust.
- During grading and all site disturbance activities, at the discretion of the City's Planning Director, construction contractors shall suspend all grading operations when wind speeds (including instantaneous gusts) exceed 25 miles per hour to reduce fugitive dust.
- During all construction activities, the construction contractors shall maintain construction equipment engines by keeping them tuned.
- During all construction activities, the construction contractors shall use low sulfur fuel for stationary construction equipment as required by AQMD Rules 431.1 and 431.2 to reduce the release of undesirable emissions.
- During all construction activities, the construction contractors shall use existing onsite electrical power sources to the maximum extent practicable. Where such power is not available, the Contractor shall use clean fuel generators during the early stages of construction to minimize or eliminate the use of portable generators and reduce the release of undesirable emissions.
- During all construction activities, the construction contractors shall use low emission, onsite stationary equipment (e.g., clean fuels) to the maximum extent practicable to reduce emissions, as determined by the City Engineer.
- During all construction activities, the construction contractors, in conjunction with the City Engineer, shall locate construction parking to minimize traffic interference on local roads.
- During all construction activities, the construction contractors shall ensure that all trucks hauling dirt, sand, soil or other loose materials are covered or should maintain at least two feet of freeboard (i.e., minimum vertical distance between top of the load and the top

of the trailer) in accordance with the requirements of the California Vehicle Code Section 23114 to reduce spilling of material on area roads.

Project Mitigation Measures

The NMC Final EIR mitigation measure as described above and following Project Mitigation Measures are recommended to reduce the impacts on air quality.

- AQ-1 Contractors shall maximize the use of construction equipment with low emission factors and high energy efficiency.
- AQ-2 During all phases of construction, all equipment shall be properly and routinely maintained, as recommended by manufacturer manuals.
- AQ-3 During all phases of construction, all contractors shall restrict idling time to five minutes or less in any given hour.
- AQ-4 Where diesel equipment has to be used because there are no practical alternatives, the construction contractor shall use particulate filters, oxidation catalysts, and low sulfur diesel fuel as defined in SCAQMD Rule 431.2, i.e. diesel with sulfur content of 15 ppm by weight or less.
- AQ-5 If feasible, schedule intense earth-moving activities to occur outside the ozone season of May through October.
- AQ-6 Schedule equipment usage to avoid simultaneous use of equipment.
- AQ-7 Maximize the use aqueous or emulsified diesel fuel for construction equipment.
- AQ-8 During construction of later phases, onsite electrical hookups shall be installed for electric hand tools such as saws, drills, and compressors, which will decrease the need for fuel powered generators and other fuel powered equipment.
- AQ-9 Maximize the use of zero-VOC paints (assumes no more than 100 gram/liter of VOC).
- AQ-10 Apply all paints using either high volume low-pressure (HVLP) spray equipment or by hand applications.

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- AQ-11 In the event a dry cleaning or gasoline dispensing facility is proposed for the Project's commercial sites, the applicant shall prepare a health risk assessment prior to the issuance of occupancy permits.
- AQ-12 A mobile source health risk assessment shall be prepared for the Project's commercial sites prior to the issuance of occupancy permits.

In addition to the Mitigation Measures listed above, implementation of the following measures is recommended.

- Maximize the use of ultra-efficient appliances and air conditioners capable of exceeding California Energy Commission requirements by at least 25%.
- Implement design standards for residential units and landscaping providing for maximum energy efficiency in order to reduce energy usage associated with cooling and heating.
- Maximize the use of light-colored roofing and building materials.
- Maximize the use of photovoltaic generators for all residences and commercial buildings as a design feature.

5.3.10 Level of Significance After Mitigation

The short- and long-term air quality impacts of the Project would be minimized with implementation of the mitigation measures identified in this EIR. This would be expected during periods of construction. All incremental contributions of emissions into the SCAB are considered significant and unavoidable.

Further, since the Project is in a non-attainment region, any release of air emissions from the proposed Project would contribute to a cumulative negative impact on regional air quality. Consequently, cumulative air quality impacts would be considered significant and adverse despite the implementation of the recommended mitigation measures. The Project will result in exceeding the regional emissions thresholds set forth by the SCAQMD for emissions of VOCs, NOx, CO and PM₁₀ during both short-term construction and long-term operational activity. Project air quality impacts are, therefore, considered significant and unavoidable.

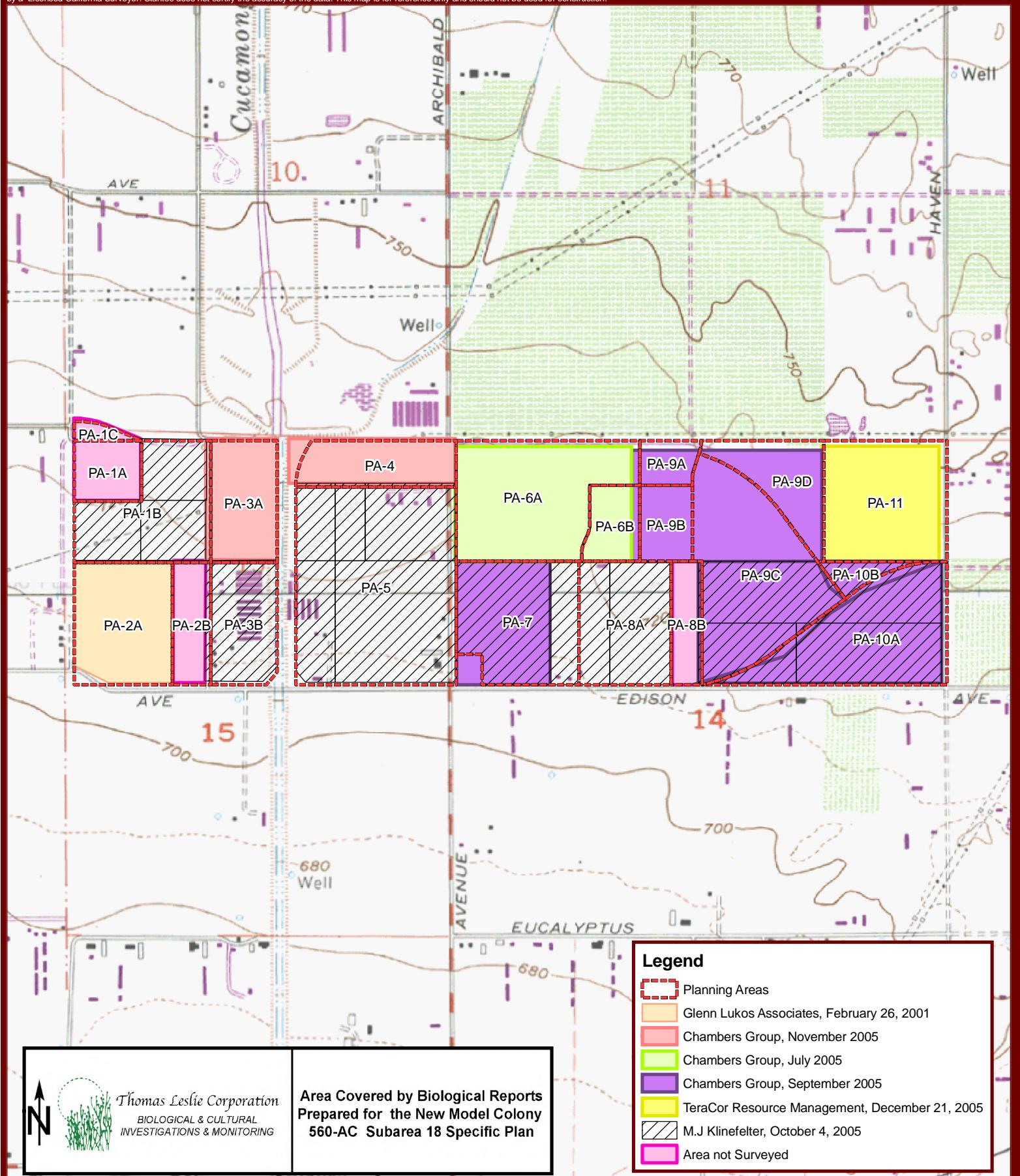
5.4 BIOLOGICAL RESOURCES

This section describes the existing biological resources associated with the Project Site and associated regulatory environment, and provides an assessment of potential impacts to those resources as they relate to the proposed Project. The biological resources described in this section are based on the following studies:

- *Glenn Lukos Associates, Results of Biological Constraints Analysis Conducted for the 30-acre Anderson Property, Incorporated Ontario, San Bernardino County, California, February 26, 2001.*
- *Chambers Group, Inc., Biological Technical Report for Ontario/Haakma Property in San Bernardino County, July 1, 2005.*
- *Chambers Group, Inc., Results of a Reconnaissance Biological Survey and Focused Sensitive Plant Survey for the Brookfield Homes Development Site North of Edison Avenue in the City of Ontario in San Bernardino County, California, September 5, 2005 and October 5, 2005.*
- *M.J. Klinefelter, General Biological Resources Assessment of Edison-Archibald Properties, October 4, 2005.*
- *Chambers Group, Inc., Biological Technical Report of Findings for the Parentex-Ontario Project Site, San Bernardino County, California, November 1, 2005.*
- *TeraCor Resource Management, General Biological Resources Assessment for a 38.88 Acre Property in Ontario, California, December 21, 2005.*

Figure 5.4-1 illustrates the parcels covered by each individual biological report prepared for the Project Site. Approximately 30 acres (Planning Areas 1A, 1C, 2B, and 8B) as noted in Figure 5.4-1 were not subject to any biological report. However, given that the physical characteristics of the four parcels are virtually identical to the other parcels in the Project Site, the biological resources, or lack thereof, are anticipated to be similar.

The biological resources described in the above-mentioned reports, hereinafter collectively referred to as the Biological Studies, are based on field observations, aerial photographs, and review of existing documents and databases. The Biological Studies can be found in their entirety in Appendix D of this EIR.



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In addition to the Biological Studies, the following documents, which provided additional information on those resources discussed in this section, are incorporated by reference:

- New Model Colony Final EIR, City of Ontario, October 1997.
- New Model Colony General Plan, City of Ontario, January 1998.
- New Model Colony Parks, Recreation, and Biological Resources Implementation Program, Final Hearing Draft, City of Ontario, September 1999.

5.4.1 Existing Conditions

The Project Site occupies a portion of a broad alluvial fan originating from the southern flank of the San Gabriel Mountains. Elevations of the site range from approximately 700 feet to 750 feet above mean sea level (msl). The area slopes gently from northeast to southwest.

The Project Site along with the majority of land in the NMC, has been disturbed by active dairy and agricultural production. The pastures, basins, agricultural areas, residential ornamental trees, windbreaks, and dairy lands provide foraging and/or nesting habitat for raptors, perching birds, and migratory waterfowl. Plant communities in the Project Site consist of weedy plant communities that do not have any special status (Klinefelter, 2005).

Water generated by dairy operations is contained on the respective dairies, and surface water does not flow into individual properties from offsite. The Project Site is within the Santa Ana River watershed. The Cucamonga Creek Channel flows in a southerly direction through the Project Site and is contained in a concrete channel. The Cucamonga Creek falls under the jurisdiction of the Army Corps of Engineers, but offers little habitat function or value. No other jurisdictional waters exist on the Project Site.

Vegetation

Several species dominate various locations within the Project Site in relation to localized levels of disturbance, moisture levels, and other environmental factors. Remnants of native vegetation are virtually absent. Common species observed during the biological surveys include: velvet leaf (*Abutilon theophrasti*), pitseed goosefoot (*Chenopodium berlandieri*), tumbelweed (*Amaranthus albus*), Russian thistle (*Salsola tragus*), London rocket (*Sisymbrium irio*), cheeseweed (*Malva parviflora*), horehound (*Marrubium vulgare*), black mustard (*Brassica nigra*), and assorted non-native grasses.

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Ornamental Windrows

Windrows are described as human-created woodlands using non-native trees and shrubs. Windrows are prevalent along the internal roadways and are typically a result of historic agricultural activities.

Dominant species include: blue gum (*Eucalyptus globoratum*), ornamental pine trees (*Pinus* spp.), and Casuarina (*Casuarina* sp.). Windrows present a challenge for species conservation. On one hand, they are comprised of non-native species that often out-compete native tree species, provide little or no food source for native fauna, and are sometimes even poisonous to wildlife. On the other hand, windrows provide excellent nesting habitat for raptors and other bird species. Ornamental windrows occur throughout the Project Site (Klinefelter, 2005).

Developed/Disturbed Areas

Developed areas within the Project Site are characterized by ornamental vegetation, barren or disturbed ground, and asphalt/concrete areas. These developed areas include commercial buildings, infrastructure, residential homes, and roads. They support a very limited amount of vegetation, which, if present, typically comprise non-native species planted for their aesthetic and utilitarian values. Ornamental plantings found within the Project Site include: white mulberry (*Morus alba*), blue gum tree (*Eucalyptus* sp.), olive (*Olea europaea*), pittosporum (*Pittosporum* sp.), and silken oak (*Grevillea robusta*). Areas of intensive agricultural operations, such as feedlots and permanent cattle holding pens, are generally devoid of vegetation.

Wildlife

The Project Site has been greatly altered from natural conditions, under the influence of intensive agriculture and dairy uses. Despite these continuing land use practices, the Project Site and vicinity supports a variety of wildlife species, especially birds. This is due, in part, to the relatively level topography that contributes to the accumulation of standing water and constructed watering basins that attract numerous migratory birds. The majority of the habitats on the Project Site are the result of human activity; however, some wildlife species have adapted to the presence of humans, and are occasionally found inhabiting pastures, stockyards, wet basins, and the banks of large basins (Klinefelter, 2005). Two special status wildlife species are known to occur on the Project Site:

For wildlife, the Project Site can be divided into open water, windrows, agricultural fields, and dairy operations/residences. Although the wildlife habitat onsite is intensively managed for agricultural purposes, wildlife species have become increasingly dependent on these resources due to accelerated urban growth in the region (Envicom Corporation, 1997) including special status species such as the white-tailed kite (*Elanus leucurus*) and burrowing owl (*Athene cunicularia hypugea*) which were observed onsite.

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Wildlife in Open Water Bodies

Open water bodies provide foraging habitat for raptors and other wildlife species and are used by migratory waterfowl. Open water bodies include wastewater runoff, livestock-watering, and freshwater irrigation ponds. Although concrete lined, the Cucamonga Creek Channel frequently contains surface water, supporting concentrations of wintering bird species. Many of the bird species observed during the biological surveys, and expected to occur onsite, are attracted to open water shorelines for food, cover from predators, and shelter from the elements. Bird species observed in wet areas include: cattle egret (*Bubulcus ibis*), mallard (*Anas platyrhynchos*), canvasback (*Aythya valisineria*), ruddy duck (*Oxyura jamaicensis*), and western sandpiper (*Calidris mauri*).

In addition to avian species, amphibians are likely to occur in wet areas including: California toad (*Bufo boreas halophilus*), Pacific chorus frog (*Pseudacris regilla*), and introduced bullfrog (*Rana catesbeiana*). Reptile species are likely to be few in number due to the history of land use (Envicom Corporation, 1997). None of the mammals observed during the survey would be considered dependent upon open water, although most would occasionally use these resources. Mammalian species observed include: raccoon (*Procyon lotor psora*) and California ground squirrel (*Spermophilus beecheyi*).

Wildlife in Windrows

Among other biological functions, windrows provide foraging, perch, and nesting sites for raptor species. Raptor species observed during the surveys include: turkey vulture (*Cathartes aura*), common barn owl (*Tyto alba*), and red-tailed hawk (*Buteo jamaicensis*). Some mammals may inhabit windrows as well. Common mammalian species known (but not observed during the surveys) to use the windrows include raccoon (*Procyon lotor*) and Virginia opossum (*Didelphis virginianus*).

Wildlife in Agricultural Fields

This habitat includes any open field, whether covered with crops, grazed, fallow, or disced. While amphibians are expected to be uncommon in these fields, reptile species are likely to occur in higher numbers. Common reptile species expected to occur include: western fence lizard (*Sceloporus occidentalis*), side-blotched lizard (*Uta stansburiana*), southern alligator lizard (*Elgaria multicarinatus*), and gopher snake (*Pituophis melanoleucus*) (Envicom Corporation, 1997). These are ubiquitous species in California, readily seen in most parts of the State under most conditions, due to their tolerance of a wide range of habitat types and human activity. Most other reptile species are unlikely to occur since they are closely tied to specific natural habitats, such as sage scrub or woodlands that are no longer present in the Project Site and surrounding area.

The agricultural fields are important for a number of bird species; these areas represent the intermediate areas between the windrows and the wet areas. Agricultural fields are used by raptors as foraging habitat, where small rodents or birds are most likely to be visible. Raptors, including migrants and winter

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visitors, may perch in trees or on power transmission lines/poles, or soar over the fields while searching for prey. The variety of raptors in the Project Site is enhanced by the combination of windrows and open fields.

Since drainage patterns of the area allow water to accumulate, the resulting wet fields also attract wading birds that forage on small animals that concentrate in the wet areas. Species observed in wet fields included: American crow (*Corvus brachyrhynchos*), western meadowlark (*Sturnella neglecta*), northern rough-winged swallow (*Stelgidopteryx serripennis*), common raven (*Corvus corax*), house sparrow (*Passes domesticus*), and white crowned sparrow (*Zonotrichia leucophrys*) (Klinefelter, 2005), (Chambers Group, Inc., 2005(a-c)), (GLA, 2001).

Agricultural fields provide the most suitable habitat for various small mammalian species, such as several species of mice and California ground squirrels (*Spermophilus beecheyi*). These species are prey for the abundant raptors found in the area. Observed mammalian species include: common wood rats (*Neotoma* spp.), California ground squirrel (*Spermophilus beecheyi*), coyote (*Canis latrans*), domestic dog (*Canis familiaris*), striped skunk (*Mephitis mephitis*), desert cottontail (*Sylvilagus audubonii*), and house cat (*Felis catus*) (Klinefelter, 2005) (Chambers Group, Inc., 2005(a-c)) (GLA, 2001).

Wildlife Associated with Dairy Operations/Residences

The concentration of human and livestock activity around structures displaces many of the animal species that would otherwise be found in the area. The animals likely to be observed in such areas are usually non-native, or more common native species that are tolerant of human activity. Species observed around dairy operations and residences include: European starling (*Sturnus vulgaris*), house finch (*Carpodacus mexicanus*), Brewer's blackbird (*Euphagus cyanocephalus*), rock dove (*Colomba livia*), brown-headed cowbird (*Molothrus ater*), mourning dove (*Zenaida macroura*), common raven, California ground squirrel, domestic dog, and house cat.

In addition to the species observed near human dwellings, there are others likely to be present. These include: western fence lizard, Norway rat (*Rattus norvegicus*), and house mouse (*Mus musculus*). The Norway rat and house mouse are non-native species that do not normally thrive outside of human activity. They are especially common near agricultural facilities where they feed on grains, produce, and garbage (Envicom Corporation, 1997).

Complete lists of wildlife species observed during the biological surveys are contained in the Biological Studies found in Appendix D of this EIR.

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5.4.2 Sensitive Biological Resources

This section describes the plant and wildlife species known to occur, or have the potential to occur, on or within the vicinity of the Project Site that have been afforded special recognition by Federal, State, or local resource conservation agencies and organizations. Recognition is given due to the species' declining or limited population sizes, resulting in most cases from habitat loss. Sensitive biological resources include any plant, animal, or natural community that falls into any of the following categories:

- State and/or Federally listed Endangered, Threatened (or Rare) plants or animals;
- State or Federal candidates for listing;
- California Species of Special Concern;
- Special Plants and Special Animals of California (CDFG, 2002);
- Plant species included in "The Inventory of Rare and Endangered Vascular Plants of California" (Skinner and Pavlik, 1994); and
- Declining or uncommon species as recognized by regional biologists familiar with the distributions and population trends of plants and animals.

The following analysis of sensitive biological resources was derived from the Biological Studies contained in Appendix D.

Sensitive Plant Species

Data sources reviewed for the Project Site and field surveys revealed that a total of 4 out of a possible 26 special status plant species are known to occur or could potentially occur onsite. Coulter's saltbush (*Atriplex coulteri*), Payson's jewelflower (*Calochortus plummerae*), and smooth tarplant (*Centromadia pungens* ssp. *laevis*) were determined to have a low probability to occur onsite. A low probability of occurrence was determined due to no reported sightings within the vicinity of the Project site and/or available habitat is limited and rarely used by the species. San Bernardino aster (*Symphyotrichum defoliatum*) was determined to have a moderate probability to occur onsite. A moderate probability of occurrence was determined for this species due to known occurrences in the vicinity and/or small areas of marginally suitable habitat present onsite.

The 26 sensitive plant species potentially occurring onsite are summarized in Table 5.4-1 below.

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Table 5.4-1 Sensitive Plant Species Potentially Occurring within the Project Site

Plant	Habitat And Distribution	Activity Period	Status Designation	Occurrence Probability
Chaparral nolina <i>Nolina cismontana</i>	Evergreen shrub. Occurs in coastal scrub and chaparral on sandstone or gabbro soils. From 460 to 4,180 feet in elevation.	May - July	FED: ND STATE: ND CNPS: 1B R-E-D: 3-2-3	Absent. Habitat for this species is not present onsite. No historical records exist for this species within 5 miles of the site.
Chaparral sand-verbena <i>Abronia villosa</i> var. <i>aurita</i>	Annual. Coastal sage scrub, chaparral. From the head of the Coachella Valley to interior Riverside, Orange and San Diego counties. Sandy places below 5,000 feet.	January - August	FED: ND STATE: ND CNPS: 1B R-E-D: 2-3-2	Absent. Habitat for this species is not present onsite. No historical records exist for this species within 5 miles of the site.
Coulter's goldfields <i>Lasthenia glabrata</i> ssp. <i>coulteri</i>	Annual herb. Occurs in coastal salt marshes, playas, valley and foothill grassland, and vernal pools, mainly in alkali playas and alkali grasslands from 3 to 4,003 feet in elevation.	February – June	FED: ND STATE: ND CNPS: 1B R-E-D: 2-3-2	Absent. Habitat for this species is not present onsite.
Coulter's saltbush <i>Atriplex coulteri</i>	Perennial. Somewhat alkaline low places, Los Angeles County to western San Bernardino County and Baja California. From 30 to 1,510 feet in elevation.	March - October	FED: ND STATE: ND CNPS: 1B R-E-D: 2-2-2	Low. Highly distributed habitat may exist onsite. No historical records exist for this species within 5 miles of the site.
Intermediate mariposa lily <i>Calochortus weedii</i> var. <i>intermedius</i>	Dry, rocky, open slopes, often in chaparral, coastal sage scrub, valley and foothill grassland below 2,000 ft. elevation. Los Angeles, Orange, and Riverside Counties.	May - July	FED: FSC STATE: ND CNPS: 1B R-E-D: 2-2-3	Absent. Habitat for this species is not present onsite. No historical records exist for this species within 5 miles of the site.
Many-stemmed dudleya <i>Dudleya multicaulis</i>	Perennial herb. Occurs in heavy, often clayey soils or grassy slopes in chaparral, coastal sage scrub, valley and foothill grassland. Riverside, San Bernardino, Orange counties. Below 2,000 feet.	April - July	FED: C2* STATE: ND CNPS: 1B R-E-D: 1-2-3	Absent. Habitat for this species is not present onsite. No historical records exist for this species within 5 miles of the site.

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Plant	Habitat And Distribution	Activity Period	Status Designation	Occurrence Probability
Marsh sandwort <i>Arenaria paludicola</i>	Perennial herb. Occurs in freshwater bogs and ferns, swamps and marshes.	May - August	FED: END STATE: END CNPS: 1B R-E-D: 3-3-2	Absent. Habitat for this species is not present onsite.
Mesa horkelia <i>Horkelia cuneata</i> ssp. <i>puberula</i>	Perennial herb. Occurs in coastal scrub, chaparral and cismontane woodland on sandy or gravelly soils. From 230 to 2,660 feet in elevation.	February - September	FED: ND STATE: ND CNPS: 1B R-E-D: 2-3-3	Absent. Habitat for this species is not present onsite. No historical records exist for this species within 5 miles of the site.
Nevin's barberry <i>Berberis nevinii</i>	Evergreen shrub. Occurs in sandy or gravelly conditions in coastal scrub, chaparral, cismontane woodland, and riparian scrub.	March - April	FED: END STATE: END CNPS: 1B R-E-D: 3-3-3	Absent. Habitat for this species is not present onsite.
Parish's' bush mallow <i>Malacothamnus parishii</i>	Deciduous shrub. Occurs in chaparral and coastal scrub.	June - July	FED: ND STATE: ND CNPS: 1A R-E-D: ?-?-?	Absent. Habitat for this species is not present onsite.
Parish's desert thorn <i>Lycium parishii</i>	Shrub. Occurs in coastal scrub and Sonoran desert scrub from 1,000 to 3,281 feet in elevation	March - April	FED: ND STATE: ND CNPS: 2 R-E-D: 2-1-1	Absent. Suitable environmental conditions to support this species are not present on the Project Site.
Parish's gooseberry <i>Ribes divaricatum</i> var. <i>parishi</i>	Deciduous shrub. Occurs within riparian woodlands in Los Angeles and San Bernardino counties.	February - April	FED: ND STATE: ND CNPS: 1B R-E-D: 3-3-3	Absent. Habitat for this species is not present onsite.
Parry's spineflower <i>Chorizanthe parryi</i> var. <i>parryi</i>	Annual herb. Sandy openings in coastal sage scrub and chaparral, 900 to 3,500 ft. Elevation, east Los Angeles Co. to San Gorgonio Pass and west Riverside Co.	April - June	FED: FSC STATE: ND CNPS: 3 R-E-D: ?-2-3	Absent. Habitat for this species is not present onsite. No historical records exist for this species within 5 miles of the site.
Payson's jewelflower <i>Calochortus plummerae</i>	Annual herb. It is generally found in Riverside and San Diego counties in chaparral and coastal scrub in sandy, granitic soils. It often occurs in disturbed substrates, but is unlikely onsite.	March - May	FED: ND STATE: ND CNPS: 4 R-E-D: 1-2-3	Low. Disturbed habitat exists onsite, however, this species was not observed during the surveys.

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Plant	Habitat And Distribution	Activity Period	Status Designation	Occurrence Probability
Plummer's mariposa lily <i>Calochortus plummerae</i>	Dry, rocky areas in coastal sage scrub, chaparral and yellow pine forest. Below 5,000 feet elevation. Santa Monica Mtns. to San Jacinto Mtns.	May - July	FED: FSC STATE: ND CNPS: 1B R-E-D: 2-2-3	Absent. Habitat for this species is not present onsite. No historical records exist for this species within 5 miles of the site.
Pringle's monardella <i>Monardella pringlei</i>	Annual herb. Occurs in sandy coastal scrub from 984 to 1,312 feet in elevation. Known from only two occurrences in the vicinity (City of Colton).	May - June	FED: ND STATE: ND CNPS: 1A R-E-D: *	Absent. Suitable environmental conditions to support this species are not present on the Project Site.
Prostrate navarretia <i>Navarretia prostrata</i>	Annual herb. Occurs in coastal scrub, vernal pools, and valley and foothill grasslands in mesic soils. From 50 to 2,300 feet in elevation.	April - July	FED: ND STATE: ND CNPS: 1B R-E-D: 2-3-3	Absent. Habitat for this species is not present onsite. No historical records exist for this species within 5 miles of the site.
Rayless ragwort <i>Senecio aphanactis</i>	Annual herb. Cismontane woodland, coastal scrub, and chaparral on drying alkaline flats. From 50 to 2,625 feet in elevation.	January - April	FED: ND STATE: ND CNPS: 2 R-E-D: 3-2-1	Absent. Habitat for this species is not present onsite. No historical records exist for this species within 5 miles of the site.
Robinson's pepper-grass <i>Lepidium virginicum ssp. robinsonii</i>	Annual. Chaparral, coastal sage scrub habitats, primarily on dry soils. From Los Angeles County south to Baja California.	January - July	FED: ND STATE: ND CNPS: 1B R-E-D: 2-3-2	Absent. Habitat for this species is not present onsite. Historic records exist for this species within 5 miles from the site in the City of Chino.
Salt marsh bird's-beak <i>Cordylanthus maritimus ssp. maritimus</i>	Coastal salt marsh, coastal dunes. Limited to the higher zones of the salt marsh habitat from 0 to 100 feet.	May - October	FED: END STATE: END CNPS: 1B R-E-D: 2-2-2	Absent. No suitable habitat present and not observed during the focused survey.

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Plant	Habitat And Distribution	Activity Period	Status Designation	Occurrence Probability
Salt spring checkerbloom <i>Sidalcea neomexicana</i>	Perennial herb. Alkaline, usually wet places. Coastal sage scrub, chaparral, creosote bush scrub. Los Angeles, Orange, San Bernardino, Riverside Counties.	March - June	FED: ND STATE: ND CNPS: 2 R-E-D: 2-2-1	Absent. Habitat for this species is not present onsite. No historical records exist for this species within 5 miles of the site.
San Bernardino aster <i>Symphyotrichum defoliatum</i>	Perennial rhizomatous herb. Occurs in meadows and seeps, marshes and swamps, coastal scrub, cismontane woodland, lower montane coniferous forest and valley and foothill grassland in vernal mesic soils near ditches, streams, and springs.	July - November	FED: NP STATE: NP CNPS: List 1B R-E-D: 2-2-3	Moderate. Highly disturbed habitat may exist within Planning Area 4. Historic records exist for this species within 5 miles from the site, near the City of Chino.
San Diego ambrosia <i>Ambrosia pumila</i>	Rhizomatous perennial herb. Occurs in dry, sunny areas: along roadsides, disturbed sites, chaparral, coastal scrub, valley and foothill grasslands, and vernal pools.	May – September	FED: END STATE: ND CNPS: 1B R-E-D: 3-3-2	Absent. Suitable environmental conditions to support this species are present in the ruderal habitats onsite. However, this species was not observed during the focused survey.
Santa Ana River woolly star <i>Eriastrum densifolium</i> var. <i>sanctorum</i>	Perennial sub-shrub found in alluvial fan sage scrub, coastal sage scrub on alluvial deposits along the Santa Ana River, San Bernardino Co.	June – September	FED: END STATE: END CNPS: 1B R-E-D: 3-3-3	Absent. Habitat for this species is not present onsite. No historical records exist for this species within 5 miles of the site.
Slender-horned spine flower <i>Dodecahema leptoceras</i>	Annual herb. Occurs in chaparral and sage scrub communities. Historically noted in Los Angeles, Riverside, and San Bernardino Counties, however, has been extirpated from much of its range.	April - June	FED: END STATE: END CNPS: 1B R-E-D: 3-3-3	Absent. Habitat for this species is not present onsite.

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Plant	Habitat And Distribution	Activity Period	Status Designation	Occurrence Probability
Smooth tarplant <i>Centromadia pungens</i> ssp. <i>laevis</i>	Often in disturbed sites near the coast. Also found on alkaline soils at the edges of marshes, swamps, playas and chenopod scrub. Found in riparian areas, valley and foothill grasslands, and sometimes at the edges of vernal pools. Southern California and Baja California.	April - September	FED: FSC STATE: ND CNPS: 1B R-E-D: 2-3-3	Low. Highly disturbed habitat may exist within Planning Area 4. Historical records are not available for this species due to lack of information.
Legend:				
FED: Federal Classifications				
END Taxa listed as endangered.				
THR Taxa listed as threatened.				
PE Taxa proposed to be listed as endangered.				
PT Taxa proposed to be listed as threatened.				
FSC Taxa classified as a Species of Special Concern: rare species which have not been listed, proposed for listing, or placed in candidate status.				
ND Not designated as a sensitive species.				
STATE: State Classifications				
END Taxa listed as endangered.				
THR Taxa listed as threatened.				
C2* The U.S. Fish and Wildlife Service (USFWS) revised its classifications of candidate taxa (species, subspecies, and other taxonomic designations). The former designation of "Category 2 Candidate for listing" has been discontinued. The USFWS will continue to assess the need for protection of these taxa and may, in the future, designate such taxa as Candidates. NRA, Inc. has noted the change in species status by marking with an asterisk (*) those C2 candidates that were removed from the list.				
CE Candidate for endangered listing.				
CT Candidate for threatened listing.				
CFP California Fully Protected. Species legally protected under special legislation enacted prior to the California Endangered Species Act.				
CSC California Species of Special Concern. Taxa with populations declining seriously or that are otherwise highly vulnerable to human development.				
SA Special Animal. Taxa of concern to the California Natural Diversity Data Base regardless of their current legal or protected status.				
ND Not designated as a sensitive species.				
CNPS: California Native Plant Society Classifications				
1A Plants presumed by CNPS to be extinct in California.				
1B Plants considered by CNPS to be rare or endangered in California and elsewhere.				
2 Plants considered by CNPS to be rare, threatened or endangered in California, but which are more common elsewhere.				
3 Review list of plants suggested by CNPS for consideration as endangered but about which more information is needed.				
4 Watch list of plants of limited distribution whose status should be monitored.				
CNPS: California Native Plant Society R-E-D Code				
Rarity 1: Rare, but found in sufficient numbers and distributed widely enough that the potential for extinction or extirpation is low at this time.				
2: Occurrence confined to several populations or one extended population.				
3: Occurrence limited to one or a few highly restricted populations, or present in such small numbers that it is seldom reported.				
Endangerment 1: Not endangered.				
2: Endangered in a portion of its range.				
3: endangered throughout its range.				
Distribution 1: More or less widespread outside California.				
2: Rare outside California.				
3: Endemic to California.				
*: Extirpated.				
?: Uncertainty about distribution or identity.				
Occurrence Probabilities:				
Occurs Observed on the site during this study or recorded on site by other qualified biologists.				
Expected Not observed or recorded on site, but likely to be present at least during a portion of the year.				
High Known to occur in the vicinity of the Project Site. Suitable habitat exists on site.				
Moderate Known to occur in the vicinity of the Project Site. Small areas of or marginally suitable habitat exists on site.				
Low No reported sightings within the vicinity of the project. Available habitat limited and rarely used.				
Absent Focused surveys did not locate the species, or suitable habitat does not exist on site.				
Unknown No data is available on whether species is on or in the vicinity of the site, and information about the species is insufficient to make an accurate assessment of probability occurrence.				
Source: California Natural Diversity Data Base (CNDDDB), California Native Plant Society Electronic Inventory (CNPSEI) Ontario, Guasti, Prado Dam, and Corona North, California 7.5 minute quadrangles, 2005.				

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Sensitive Wildlife Species

Data sources reviewed for the Project Site and field surveys revealed that a total of 30 out of a possible 42 special status wildlife species are known to occur or could potentially occur onsite.

Two sensitive bird species were observed onsite:

- White-tailed kite (*Elanus leucurus*), and burrowing owl (*Athene cunicularia hypugea*).

Two sensitive bird species were determined to have a high probability of occurrence:

- Cooper's hawk (*Accipiter cooperi*) and California horned lark (*Eremophila alpestris actia*). A high probability of occurrence was determined for these species due to their known occurrence in the vicinity of the Project Site and that suitable habitat exists onsite.

Eight sensitive wildlife species were determined to have a moderate probability of occurrence:

- Four bird species: golden eagle (*Aquila chrysaetos*), loggerhead shrike (*Lanius ludovicianus*), tricolored blackbird (*Aeglaius tricolor*), and yellow warbler (*Dendroica petechia brewsteri*).
- Four mammalian species: California mastiff bat (*Eumops perotis californicus*), western yellow bat (*Lasiorus xanthinus*), San Diego black-tailed jackrabbit (*Lepus californicus bennettii*), and Los Angeles pocket mouse (*Perognathus longimembris brevinasus*).

A moderate probability of occurrence was determined for these species due to known occurrences in the vicinity and/or small areas of or marginally suitable habitat present onsite.

Eighteen sensitive wildlife species determined to have a low probability of occurrence:

- One amphibian species: western spadefoot (*Scaphiopus hammondii*);
- Five reptile species: southwestern pond turtle (*Clemmys marmorata pallida*), San Diego horned lizard (*Phrynosoma coronatum blainvilliei*), orange-throated whiptail (*Cnemidophorus hyperythrus*), coastal western whiptail (*Cnemidophorus tigris multiscutatus*), and northern red-diamond rattlesnake (*Crotalus exsul*);
- Six bird species: Sharp-shinned hawk (*Accipiter striatus*), ferruginous hawk (*Buteo regalis*), prairie falcon (*Falco mexicanus*), long-eared owl (*Asio otus*), Bell's sage sparrow (*Amphispiza belli belli*), Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*);
- Five mammalian species: Townsend's western big-eared bat (*Plecotus townsendii pallescens*), California leaf-nosed bat (*Macrotus californicus*), pallid bat (*Antrozous pallidus*), northwestern San Diego pocket mouse (*Chaetodipus fallax fallax*), and Stephens' kangaroo rat (*Dipodomys stephensi*); and
- One invertebrate species: Delhi sands flower-loving fly (*Rhaphiomidas terminatus abdominalis*) (DSF).

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A low probability of occurrence was determined for these species due to no reported sightings within the vicinity of the Project Site and/or available habitat is limited and rarely used by the species. Table 5.4-2 below summarizes the potential wildlife species known to occur or could potentially occur onsite.

Table 5.4-2 Sensitive Wildlife Species Potentially Occurring within the Project Site

Animal Species	Habitat And Distribution	Status Designation	Occurrence Probability
FISH			
Arroyo chub <i>Gila orcutti</i>	Associated with slow water streams with mud or sand bottoms. Feeds heavily on aquatic vegetation and associated invertebrates.	FED: ND STATE: CSC	Absent. Suitable aquatic habitat is not present onsite.
Santa Ana speckled dace <i>Rhinichthys osculus</i>	Headwaters of the Santa Ana and San Gabriel rivers. May be extirpated from the Los Angeles River system. Requires permanent flowing streams with summer water temperatures of 17 - 20 degrees Centigrade. Usually inhabits shallow cobble and gravel riffles.	FED: THR STATE: CSC	Absent. Suitable aquatic habitat is not present onsite.
Santa Ana sucker <i>Catostomus santaanae</i>	Endemic to Los Angeles basin south coastal streams. Usually found in fresh water with sand-rubble or boulder bottoms.	FED: THR STATE: CSC	Absent. Suitable aquatic habitat is not present onsite.
AMPHIBIANS			
Western spadefoot <i>Scaphiopus hammondii</i>	Grasslands and occasionally hardwood woodlands; largely terrestrial but for breeding, requires rain pools or other ponded water for 3+ weeks; burrows in loose soils during dry season; Central Valley and foothills, coast ranges, inland valleys, to Baja Calif.	FED: FSC STATE: CSC	Low. Marginal breeding habitat is present but surrounding habitats are extremely disturbed and fragmented.
REPTILES			
Southwestern pond turtle <i>Clemmys marmorata pallida</i>	Permanent or nearly permanent water in a wide variety of habitats; requires basking sites such as partially submerged logs, rocks, or open mud banks. Central California to northwestern Baja California.	FED: ND STATE: CSC	Low. Marginal habitat onsite; ponded areas onsite do not contain many of the species' requirements (i.e., basking sites, vegetation).

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Animal Species	Habitat And Distribution	Status Designation	Occurrence Probability
San Diego horned lizard <i>Phrynosoma coronatum blainvilliei</i>	Wide variety of habitats including coastal sage scrub, grassland, riparian woodland; typically on or near loose sandy soils in which colonies of harvester ants are established; coastal and inland areas from Ventura Co. to Baja Calif.	FED: FSC STATE: CSC	Low. Marginal habitat present onsite.
Orange-throated whiptail <i>Cnemidophorus hyperythrus</i>	Floodplains and terraces with perennial plants and open areas nearby; sea level to 3,000 feet elevation; inland and coastal valleys of Riverside, Orange, and San Diego counties to Baja Calif. It requires natural scrub habitats and micro-sites for cover.	FED: ND STATE: CSC	Low. Marginal habitat present onsite.
Coastal western whiptail <i>Cnemidophorus tigris multiscutatus</i>	Firm, sandy or rocky soils in deserts and semiarid areas with sparse shrub or grassland associations. Also found in woodland and riparian areas.	FED: ND STATE: CSC	Low. Marginal habitat present onsite.
Silvery legless lizard <i>Anniella pulchra pulchra</i>	Found predominantly in the Coast Ranges, Transverse Mountains, and Peninsular Ranges and in northwest Baja California. Prefers areas with sandy or loose organic soils or with abundant leaf litter.	FED: FSC STATE: CSC	Absent. Although sandy soils occur on site, abundant leaf litter (providing a humid microclimate) does not exist on site.
Northern red-diamond rattlesnake <i>Crotalus exsul</i>	Occurs in rocky areas and dense vegetation. Needs rodent burrows, cracks in rocks or other surface material for shelter. Chaparral, woodland, grassland and desert areas. Coastal San Diego County to the eastern slopes of the mountains.	FED: FSC STATE: CSC	Low. Marginal habitat present onsite.
BIRDS			

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Animal Species	Habitat And Distribution	Status Designation	Occurrence Probability
White-tailed kite <i>Elanus leucurus</i>	Widely distributed in riparian scrub, forest and woodland, and oak woodland and forest for breeding and uses a wide variety of open grassland/agricultural land for foraging.	FED: FSC STATE: CFP	Present (foraging). One individual was observed perched on a fence post onsite. There is a low probability that nesting could occur within the Eucalyptus windrows onsite.
Sharp-shinned hawk <i>Accipiter striatus</i>	Nests in woodland, coniferous deciduous forest. Winter visitor and migrant to coastal Southern California. Forages over a variety of habitats.	FED: ND STATE: CSC	Low. Not observed during the surveys, but are expected to forage infrequently over the property during migration and in winter.
Cooper's hawk <i>Accipiter cooperi</i>	Woodland and semi-open habitats, riparian groves, windrows, dry basins, fallow pastures, ruderal areas. Uncommon permanent resident in coastal, mountains, and deserts of Southern California. Transients fairly common in fall.	FED: ND STATE: CSC	High (foraging). Marginal nesting habitat present onsite within the Eucalyptus windrows. Foraging habitat present onsite.
Golden eagle <i>Aquila chrysaetos</i>	Grasslands, brushlands, deserts, oak savannas, open coniferous forests and montane valleys. Nesting primarily in rugged mountainous country. Uncommon resident in Southern California.	FED: ND STATE: CFP and CSC	Moderate. Foraging habitat for this species exists over the site. Marginal nesting habitat occurs onsite.

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Animal Species	Habitat And Distribution	Status Designation	Occurrence Probability
Ferruginous hawk <i>Buteo regalis</i>	Widespread distribution within suitable foraging habitat. Fairly common in winter in open grassland and agricultural regions in the interior, as well as some valleys along the coast. It does not require specific conditions or locations for nesting since it does not nest in the region.	FED: FSC STATE: CSC	Low. Not observed during the surveys. Poor quality foraging habitat for this species exists on site. No suitable nesting habitat occurs on site.
Prairie falcon <i>Falco mexicanus</i>	Nest in cliffs or rocky outcrops; forage in open arid valleys, agricultural fields. Throughout the desert and arid interior portions of coastal counties. Uncommon resident in Southern California.	FED: ND STATE: CSC	Low. Not observed during the surveys. Foraging habitat exists for this species over the property, but there is no suitable nesting habitat.
Burrowing owl <i>Athene cunicularia hypugea</i>	Grasslands and rangelands, usually occupying ground squirrel burrows. Found in agricultural areas.	FED: FSC STATE: CSC	Present. Species observed onsite.
Long-eared owl <i>Asio otus</i>	Requires wooded areas for daytime roosting with adjacent open areas to forage. Species often associated with coniferous forest edges or patches of conifers adjacent to grasslands, agricultural lands, or riparian habitat.	FED: ND STATE: CSC (nesting)	Low. Foraging habitat exists on the property.
Western yellow-billed cuckoo <i>Coccyzus americanus occidentalis</i>	Primarily nests in riparian forest, along broad, lower flood-bottoms of large river systems. Prefers close tangles of willow, often mixed with cottonwood and an understory of blackberry, nettles or wild grape.	FED: FC STATE: END	Absent. Habitat not present onsite.
Southwestern willow flycatcher <i>Empidonax traillii extimus</i>	Breeds and nests in willow riparian forest, in the dense understory of riparian thickets.	FED: END STATE: END	Absent. Habitat not present onsite.

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Animal Species	Habitat And Distribution	Status Designation	Occurrence Probability
California horned lark <i>Eremophila alpestris actia</i>	Dry basins, fallow pastures, ruderal areas, agricultural fields (nesting and foraging).	FED: FT STATE: CSC	High. Habitat present onsite.
California gnatcatcher <i>Polioptila californica</i>	Coastal sage scrub; occurs only in cismontane Southern California and northwestern Baja California in low-lying foothills and valleys.	FED: THR STATE: CSC	Absent. Habitat is not present onsite.
Loggerhead shrike <i>Lanius ludovicianus</i>	Open fields with scattered trees, open woodland, and scrub. Fairly common resident throughout southern California.	FED: FSC STATE: CSC	Moderate. Habitat present onsite.
Least Bell's vireo <i>Vireo bellii pusillus</i>	Dense willow-associated riparian habitat. Breeds and nests only in southwestern California; winters in Baja Calif.	FED: END STATE: END	Absent. Habitat not present onsite.
Bell's sage sparrow <i>Amphispiza belli belli</i>	Frequents low, fairly dense stands of shrubs within coastal sage scrub or chaparral habitat.	FED: FSC STATE: CSC	Low. Minimal foraging habitat present onsite. No nesting habitat present.
Yellow-breasted chat <i>Icteria virens</i>	Riparian thickets of willow, brushy tangles near watercourses. Nests in riparian woodland throughout much of western North America. Winters in Central America.	FED: ND STATE: CSC	Absent. Habitat not present onsite.
Southern California rufous-crowned sparrow <i>Aimophila ruficeps canescens</i>	Fairly common resident along the coast of California; breeds very locally on desert mountain ranges. Preferred habitat is slopes with sparse shrubs and open grassy areas intermixed. Frequents relatively steep, often rocky hillsides with grass and forb patches. Coastal sage scrub is the most common plant community used.	FED: ND STATE: CSC	Low. Minimal foraging habitat present onsite. No breeding habitat present.
Tricolored blackbird <i>Aeglaeius tricolor</i>	Occurs in a widely scattered distribution; specific habitat requirements, including patches of dense emergent vegetation as primary habitat for breeding.	FED: FSC STATE: CSC	Moderate. Although no suitable nesting habitat is present onsite, this species regularly utilizes dairy lots.

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Animal Species	Habitat And Distribution	Status Designation	Occurrence Probability
Yellow warbler <i>Dendroica petechia brewsteri</i>	Nests in riparian areas where tall trees are present. Also in farmlands, montane shrubbery and coniferous forests where water is available. It favors wet habitats, especially alders, open woodlands, and gardens.	FED: ND STATE: CSC (nesting)	Moderate. Minimal habitat for this species is present where water is available, it could also potentially forage onsite.
MAMMALS			
Townsend's western big-eared bat <i>Plecotus townsendii pallescens</i>	Requires caves, mines, tunnels, buildings or other similar structures for roosting. May use separate sites for night, day, hibernation or maternity roosts. Found in all areas except subalpine and alpine habitats throughout California.	FED: FSC STATE: CSC	Low. Marginal habitat onsite.
California leaf-nosed bat <i>Macrotus californicus</i>	Occupies low-lying desert areas, roosts in caves, mines, and old buildings.	FED: FSC STATE: CSC	Low. Marginal habitat onsite.
Pallid bat <i>Antrozous pallidus</i>	Day roost in caves, crevices, mines and occasionally hollow trees and buildings. Night roosts may be more open sites, such as porches and open buildings. Hibernation sites are probably rock crevices. Grasslands, shrublands, woodlands and forest from sea level through to mixed conifer. Throughout Southern California.	FED: ND STATE: CSC	Low. Marginal habitat onsite.
California mastiff bat <i>Eumops perotis californicus</i>	Inhabits many open, semi-arid to arid habitats, including conifer and deciduous woodlands, costal scrub, grasslands, and chaparral communities. Roots in rocky areas at low elevations where roosting occurs primarily in crevices.	FED: FSC STATE: CSC	Moderate. Suitable habitat present onsite.
Western yellow bat <i>Lasiurus xanthinus</i>	Roosts in the skirt of dead fronds in either native or non-native palm trees in deserts of the Southwestern U.S.	FED: ND STATE: SA	Moderate. Suitable habitat present onsite.
Big free-tailed bat <i>Nyctinomops macrotis</i>	Associated with desert shrub, woodlands, and evergreen forests. Inhabits rugged, rocky habitats in arid landscapes. Roosts in crevices in high cliffs or rocky outcrops. Ranges up to 8000 foot elevation.	FED: ND STATE: CSC	Absent. Habitat is not present onsite.

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Animal Species	Habitat And Distribution	Status Designation	Occurrence Probability
San Diego black-tailed jackrabbit <i>Lepus californicus bennettii</i>	Variety of habitats including herbaceous and desert scrub areas, early stages of open forest and chaparral. Most common in relatively open habitats. Restricted to the cismontane areas of Southern California, extending from the coast to the Santa Monica, San Gabriel, San Bernardino and Santa Rosa mountain ranges.	FED: ND STATE: CSC	Moderate. Habitat present onsite.
Los Angeles pocket mouse <i>Perognathus longimembris brevinasus</i>	Prefers sandy soil for burrowing, but has been found on gravel washes and stony soils. Found in coastal scrub and grasslands. Los Angeles, Riverside, and San Bernardino Counties.	FED: ND STATE: CSC	Moderate. Suitable habitat for this species occurs where sandy soils and ruderal vegetation exist.
Northwestern San Diego pocket mouse <i>Chaetodipus fallax fallax</i>	Sandy herbaceous areas, usually with rocks or coarse gravel. Arid coastal areas in grassland, coastal scrub, chaparral, and desert scrubs. San Diego, San Bernardino, Los Angeles, and Riverside Counties.	FED: ND STATE: CSC	Low. Marginal habitat present onsite.
Stephens' kangaroo rat <i>Dipodomys stephensi</i>	Open areas with sparse perennial cover with areas of loose soil where the soil depth is at least 0.5 meters. Also inhabits disturbed areas such as fallow fields by using the burrows of other rodents, including pocket gophers and Beechey ground squirrel.	FED: END STATE: THR	Low. Marginal habitat present onsite.
San Bernardino kangaroo rat <i>Dipodomys merriami parvus</i>	Primary and secondary alluvial fan scrub habitats, with sandy soils deposited by fluvial (water) rather than aeolian (wind) processes. The preferred substrate appears to be sandy and sandy loam soils and very little herbaceous ground cover. In isolated populations along the Santa Ana and San Jacinto drainage systems.	FED: END STATE: CSC	Absent. Habitat not present onsite.
San Diego desert woodrat <i>Neotoma lepida intermedia</i>	Moderate to dense canopies, particularly in rocky areas. Coastal sage scrub and chaparral. Coastal southern California.	FED: FSC STATE: CSC	Absent. Habitat not present onsite.

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Animal Species	Habitat And Distribution	Status Designation	Occurrence Probability
INVERTEBRATES			
Delhi sands flower-loving fly <i>Rhaphiomidas terminatus abdominalis</i>	Found on fine, sandy soils often with wholly or partially consolidated dunes. These soil types are classified as the Delhi series. This species is restricted to western Riverside and San Bernardino counties.	FED: END STATE: END	Low. Minimal Delhi sand habitat present onsite.
Legend:			
FED: Federal Classifications			
END	Taxa listed as endangered.		
THR	Taxa listed as threatened.		
PE	Taxa proposed to be listed as endangered.		
PT	Taxa proposed to be listed as threatened.		
FSC	Taxa classified as a Species of Special Concern: rare species which have not been listed, proposed for listing, or placed in candidate status.		
FC	Federal candidate species.		
ND	Not designated as a sensitive species.		
STATE: State Classifications			
END	Taxa listed as endangered.		
THR	Taxa listed as threatened.		
CE	Candidate for endangered listing.		
CT	Candidate for threatened listing.		
CFP	California Fully Protected. Species legally protected under special legislation enacted prior to the California Endangered Species Act.		
CSC	California Species of Special Concern. Taxa with populations declining seriously or that are otherwise highly vulnerable to human development.		
SA	Special Animal. Taxa of concern to the California Natural Diversity Data Base regardless of their current legal or protected status. Not designated as a sensitive species. Taxa that are biologically rare, very restricted in distribution, declining throughout their range, or at a critical stage in their life cycle when residing in California. Population(s) in California that may be peripheral to the major portion of a taxon's range, but which are threatened with extirpation within California. Taxa closely associated with a habitat that is declining in California.		
Occurrence Probabilities:			
Occurs	Observed on the site during this study or recorded on site by other qualified biologists.		
Expected	Not observed or recorded on site, but likely to be present at least during a portion of the year.		
High	Known to occur in the vicinity of the Project Site. Suitable habitat exists on site.		
Moderate	Known to occur in the vicinity of the Project Site. Small areas of or marginally suitable habitat exists on site.		
Low	No reported sightings within the vicinity of the project. Available habitat limited and rarely used.		
Absent	Focused surveys did not locate the species, or suitable habitat does not exist on site.		
Unknown	No data is available on whether species is on or in the vicinity of the site, and information about the species is insufficient to make an accurate assessment of probability occurrence.		
Source: California Natural Diversity Data Base (CNDDDB), Ontario, Guasti, prado Dam, and Corona North, California 7.5 minute quadrangles, 2005.			

Other Biological Issues

Raptor Foraging

Pastures and other agricultural open spaces (excluding dairies) within the Project Site provide habitat for burrowing owls, foraging raptors and migratory birds/waterfowl. Associated with these agricultural fields and open spaces are windrows and agricultural wastewater detention basins. Windrows are remnants of past agricultural use and provide roosting and nesting habitat for raptors. The agricultural detention basins hold dairy wastewater but also may afford some marginal and highly degraded habitat for various bird species, including raptors.

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Jurisdictional Drainages

According to the Biological Studies conducted for the Project, with the exception of the Cucamonga Creek channel, there are no drainage features on the Project Site. The Cucamonga Creek falls under the jurisdiction of the Army Corps of Engineers and will not be affected by future development as described in The Avenue Specific Plan and related General Plan amendment, the cancellation of Williamson Act Contracts, or relocation of the aboveground electrical facilities.

Wildlife Corridor Connectivity

Urban development and intensive agriculture operations surround the Project Site. The Project Site does not support regional wildlife movement through the area. Further, it does not link large natural open space areas together for wildlife movement.

5.4.3 Issues Identified During the Public Scoping Meeting

No issues were identified during the public scoping meeting in regards to biological resources.

5.4.4 Issues Identified in NOP and Amended NOP Comment Letters

The United States Department of the Interior, Fish and Wildlife Service (USFWS) responded to the NOP. USFWS's primary concerns regarding the Project focus on the potential loss of Delhi soils, and potential impacts to the Federally endangered Delhi Sands flower-loving fly. The USFWS identifies the Project Site as containing Delhi soils, and recommends two years of biological surveys focusing on the Delhi Sands flower-loving fly. An impact analysis and recommended mitigation measures for this species are included in Sections 5.4.6 through 5.4.7.

The Center for Biological Diversity (Center) responded to the Amended NOP. The Center's primary concern is the protection and preservation of native wildlife and plant species and their habitats. Pursuant to CEQA Public Resources Code 21000 *et seq.* and as requested by the Center, this EIR has thoroughly analyzed and mitigated for direct, indirect, and cumulative potential impacts to biological resources found onsite. Further, the various Biological Studies conducted for the Project included consideration of species known to occur on the edge of their ranges and within proximity of the Project Site, and the effects of species and ecosystems from invasive exotic species.

Both letters are included in their entirety in Appendix A of this EIR.

5.4.5 Thresholds of Significance

According to Appendix G of the CEQA Guidelines and the City's Initial Study checklist, a project would normally have a significant effect on the environment if it would:

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

5.4.6 Project Compliance with Existing Regulations

Federal Recognition

Endangered and Threatened Species

A Federal Endangered Species (END) is a species formally listed by the United States Fish and Wildlife Service (USFWS) as facing extinction throughout all or a significant portion of its geographic range. A Federal Threatened Species (THR) is one formally listed by the USFWS as likely to become endangered within the foreseeable future throughout all or a significant portion of its range. “Take” of such a species or its habitat is prohibited by Federal law without a special permit. The term “take,” under the Endangered Species Act (ESA), means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in such conduct. “Harm” is defined by the USFWS to encompass “an act which actually kills or injures wildlife.” Such acts may include significant habitat modification or degradation where it actually kills or injures listed wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering” (50 CFR § 17.3).

Proposed Threatened or Endangered Species

A proposed Threatened (PT) or Endangered (PE) Species is one officially proposed by the USFWS for addition to the Federal Threatened or Endangered Species lists.

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Species of Concern

A Federal Species of Concern (FSC) is a species within an informal designation by the USFWS for certain declining species that are not Federal candidates for listing at this time. This designation does not provide legal protection but signifies that these species are recognized as special status by the USFWS.

Critical Habitat

The Federal government defines critical habitat as the minimum amount of suitable breeding and foraging habitat occupied or potentially occupied by Threatened or Endangered Species that is deemed necessary to maintain present populations and to recover populations of the species to the point at which the species is no longer Threatened or Endangered. It does not necessarily include all suitable habitat (such as highly fragmented or isolated patches); however, it may contain highly degraded or altered habitat that can be restored, and it may include buffer zones of other habitats. Defined critical habitat for a species differs significantly from one species to another.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) of 1918 establishes protection of migratory birds by making it illegal to "take" migratory birds, their eggs, feathers or nests. Take is defined in the MBTA to include by any means or in any manner, any attempt at hunting, pursuing, wounding, killing, possessing, or transporting any migratory bird, nest, egg, or part thereof.

State of California Recognition

Endangered and Threatened Species

The State of California considers an Endangered Species (END) one whose prospects of survival and reproduction are in immediate jeopardy. A Threatened Species (THR) is one present in such small numbers throughout its range that it is considered likely to become an Endangered Species in the near future in the absence of special protection or management. A Rare Species is one present in such small numbers throughout its range that it may become endangered if its present environment worsens. The designation "Rare Species" applies only to California native plants. State Threatened and Endangered Species includes both plants and wildlife, but do not include invertebrates, and are legally protected against "take," as this term is defined in the California Endangered Species Act (California Fish and Game Code Section 2050 et seq.).

Species of Special Concern

Species of Special Concern (CSC) is an informal designation used by the California Department of Fish and Game (CDFG) for certain declining wildlife species that are not officially listed as Endangered, Threatened, or Rare. This designation does not provide legal protection, but signifies that these species are recognized as sensitive by CDFG.

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Fully Protected Species

Species that are California Fully Protected (CFP) include those protected by special legislation for various reasons, such as the golden eagle (*Aquila chrysaetos*) and white-tailed kite (*Elanus leucurus*).

Sensitive Plant Species

The California Native Plant Society (CNPS) is a statewide resource conservation organization that has developed an inventory of California's sensitive plant species (Skinner and Pavlik, 1994). This inventory is a summary of information on the distribution, rarity, and endangerment of California's vascular plants. This rare plant inventory consists of four lists. CNPS presumes that List 1A plant species are extinct in California because they have not been seen in the wild for many years. CNPS considers List 1B plants as Rare, Threatened, or Endangered throughout their range. List 2 plant species are considered Rare, Threatened, or Endangered in California, but more common in other states. Plant species on lists 1A, 1B, and 2 meet CDFG criteria for Endangered, Threatened, or Rare listing. Plant species for which CNPS requires additional information in order to properly evaluate their status are included on List 3. List 4 plant species are those of limited distribution in California whose susceptibility to threat is considered low at this time.

New Model Colony General Plan

The NMC General Plan functions as a framework document that establishes the goals, policies and objectives which the Project will implement. Therefore, in terms of biological resources, the Project will be consistent with the following:

Policy 18.1.3: Development projects should include a Biological Assessment Report that addresses the proposed project's impact on State and Federally-listed and candidate plants and wildlife; California Department of Fish and Game Special Animals; waterfowl or raptor habitat and may other special interest species or communities identified in the General Plan Analyses of Existing Conditions and Trends Report, or those hereafter named by State or Federal trustee agencies.

Policy 18.1.5: Require that subarea specific plans include sufficient technical data to enable an adequate assessment of the potential for impacts on biological resources. Such technical data shall include species lists, habitat use, acreage of habitat, and descriptions of any vegetation.

Policy 18.1.6: Require that specific plans and development projects proposed within the NMC assess their impacts on local biological resources and recommend appropriate mitigation measures, if necessary, to account for specific development characteristics or site conditions that are not adequately addressed by the NMC Final EIR.

The majority of the proposed Project has already complied with these policies by the preparation of biological reports and ongoing DSF surveys. Mitigation Measure BR-2 requires compliance with these policies for those unsurveyed Planning Areas (1A, 1C, 2B, and 8B) before discretionary entitlements can be obtained.

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Development Impact Fee

The Project is also subject to the applicable terms and conditions of the Settlement and General Release Agreement dated November 28, 2001 (Agreement). The purpose of the Agreement is to settle and release fully and completely all claims of Endangered Habitats League and Sierra Club (Petitioners) in a law suit against the City (the Respondent) commenced in February 1998. The Agreement addressed and provided mitigation for certain potential future environmental effects that could result from development, and covered potential environmental effects that could result from development. Mitigation measures included in the Agreement which relate to biological resources include items such as the City's establishment of a mitigation fee based on developable acres, the City's establishment of long-term habitat area(s), management of said habitat by a land trust (or other conservation entity), and the requirement for biological studies in conjunction with CEQA and development applications. The NMC General Plan Final EIR is presumed to be legally adequate based on the Settlement Agreement and inclusion of the mitigation measures established therein. The Settlement Agreement is included in Appendix D of this EIR.

In accordance with the Mitigation Fee Act (California Government Code, Section 66000 et seq.) and the Agreement, the City established a development impact fee for development in the NMC. The primary purpose of the fee is to acquire and restore mitigation lands to offset habitat impacts to all (both listed and non-listed) species that inhabit or may inhabit habitat within the NMC. Losses of habitat of particular concern are those associated with the burrowing owl, DSF, raptors, and waterfowl. In addition to complying with the terms of the Agreement, fees collected will be used to advance the goals, objectives and policies set forth in the NMC General Plan and any subsequent General Plan amendment. Currently, developers are required to pay \$4,320 per acre as a condition of issuance of grading permits.

It should be noted that the development impact fees do not mitigate for the direct loss of species, only the loss of habitat. If sensitive or protected species are found to be present onsite, mitigation will be required (e.g., implementation of a relocation program or nesting season survey).

Ontario Recovery Unit

The DSF was listed as an endangered species by the USFWS on September 23, 1993 (58 Federal Register 49881). However, critical habitat for this species has not been designated. The USFWS considers this species to have a high degree of threat and low potential for recovery. Although the species has a low recovery potential, the USFWS adopted a Final Recovery Plan for the DSF (U.S. Fish and Wildlife Service, 1997). This Recovery Plan attempts to reduce the risk of global extinction of the species by spreading protection across three separate Recovery Units (RUs) that include adequate habitat and area. These are identified as the Colton RU, the Jurupa RU, and the Ontario RU. The NMC is located within the boundaries of the Ontario RU.

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The majority of DSF habitat within the Ontario RU has been eliminated by long standing agricultural land uses and urban development. Historical actions that have eliminated the species and its habitat include commercial and residential development, dumping of cow manure, and invasive exotic vegetation.

Southern California Edison Wildlife Protection Program

SCE has established a Wildlife Protection Program for the protection of endangered species and their habitat in lands owned or managed by SCE. In order to implement this effort, a comprehensive Endangered Species Alert Program manual was created in 1989, and updated in 1999. This manual contains descriptions and pictures of every protected plant or animal in SCE's service territory, its natural history, current status on State and Federal endangered species lists, a description of activities that degrade its habitat, and a map showing where the species is found.

5.4.7 Design Consideration

No specific design measures would be implemented that would avoid or reduce potentially significant impacts to biological resources. There were no additional mitigation measures that were considered but rejected.

5.4.8 Project Impacts

Following is a discussion of the Project impacts that correspond to the thresholds of significance previously identified in Section 5.4.4 above.

Impacts Related to Loss of Habitat

The Project would remove the majority of the existing habitats found onsite. This includes windrows, agricultural fields, and open water bodies. The Biological Studies did not identify any drainage features onsite that would support riparian habitat. In addition, the Biological Studies did not identify any sensitive natural communities existing on the Project Site. Therefore, implementation of the proposed Project would not result in any impacts related to either riparian vegetation or sensitive natural communities.

Impacts to Burrowing Owl Habitat

The majority of the habitat available for use by the burrowing owl would be removed as a result of implementing the Project. Because burrowing owls are protected by the Migratory Bird Treaty Act of 1918, a mitigation measure has been included to assess the presence or absence of the species prior to the commencement of any ground-disturbing activities. If burrowing owls are present, a relocation program will be required. Therefore, potential significant impacts to the species will be reduced to a less

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than significant level. Burrowing owls were observed during the Biological Studies conducted for the Project.

Impacts to Delhi Sand Flower-loving Fly Habitat

Implementation of the Project would remove potential habitat for the DSF for those portions of the site containing Delhi series soils. Because the DSF is a Federally-listed species, removal of this habitat could result in a significant impact if the DSF was present onsite, although the USFWS has not designated critical habitat for the species and has not determined specific habitat acreage objectives within the three RUs. Two-year focused surveys have been initiated on portions of the site. Prior to the approval of any development on the un-surveyed areas, habitat suitability surveys will be required. The outcome of the surveys will determine the appropriate action, if any, to be taken to ensure no significant impacts to the DSF and/or recovery efforts occur as a result of the Project.

The Delhi sands flower-loving fly is found primarily on fine, sandy soils, often with wholly or partially consolidated dunes. These soil types are generally classified as the "Delhi" series (primarily Delhi fine sand). The known exclusive habitat for this species is restricted to portions of western Riverside and San Bernardino counties, along the former flood plains of Lytle Creek and the Santa Ana River. This species is present year round, but is only visible above ground when it emerges as an adult for foraging and mating in August and September. The remainder of the year is spent as an egg, pupa, and subsequent molt stages until adulthood. The habitat for this species has historically been severely limited and historical agricultural practices and on going development of the San Bernardino Valley area have resulted in the extent of Delhi sands being further reduced. The species is listed as Endangered by the United States Fish and Wildlife Service. The California Department of Fish and Game has not formally designated this species. Subteranean and heavily disturbed Delhi sands are present on approximately one half of the Project Site.

The Delhi series soils that exist on the Project Site have been severely degraded by dairy and agriculture operations that have occurred during much of the last century. Onsite structures (e.g., agricultural support structures, barns, houses, etc), agricultural conversion, invasion by exotic weed species, the dumping and spreading of cow manure, the use of the Project Site for feed lots and other dairy supporting operations, the use pf pesticides, the dumping of trash, and the extensive drainage and watering onsite have caused severe modification and loss of most, if not all, of this species' potential habitat.

According to the Federal Register (58 FR 49881, 1993), "there is no reason for concluding that the Delhi sands flower-loving fly will use previously farmed areas. Agricultural fields may return or be restored to suitable habitat over time; however, the potential of this species to recolonize degraded sites is unknown although this behavior may be pivotal to its recovery." In addition, the Federal Register states "the use of

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pesticides in agricultural areas and their persistence in the soil may have deleterious effects on this species. Furthermore, the level of disturbance at a given site may favor exotic over native vegetation, which may preclude the use of that area by the fly."

The USFWS has completed a recovery plan for the Delhi sands flower-loving fly. The plan recommends that three recovery units be established within the fly's historical range. The Final Recovery Plan for the Delhi sands flower-loving fly (1997) states that portions of the SCE right-of way within the City of Ontario contain restorable habitat. The SCE easements that occur on the Project Site (in APNs 218-181-25 and 21-181-23) occur within Delhi sands (Db) map units. These areas consist of land that is currently being farmed; soil conditions have likely been permanently altered, hence restoration efforts would be complex and costly, with limited predictability of success.

To confirm the accuracy of the best available scientific and commercial information referenced above, with the exception of Planning Areas 1A, 1C, 2B, and 8B the landowners within the Project Site commissioned a series of technical biological resource assessments to determine the likelihood of the presence of DSF onsite, and the suitability of the habitat onsite. References to the technical studies that were prepared are set forth in Figure 5.4-1. In several instances, the technical studies overlap, meaning that two studies were completed for a single piece of property.

Planning Area 2A was the subject of a technical evaluation prepared by Glenn Lukos and Associates. This report concluded that no suitable DSF habitat occurs onsite due to historical and on-going agricultural activities.

Planning Areas 3A and 4 were the subject of a November 2005 biological resources evaluation prepared by the Chambers Group. This report concluded that no suitable DSF was identified onsite.

Planning Areas 7, 9A, 9B, 9C, 9D, and 10A were the subject of a September 2005, biological resources evaluation prepared by the Chambers Group. The report concluded that these Planning Areas have been heavily disturbed due to historical and on-going agricultural activities and, as a result, the overall habitat quality for this species onsite is very low and two-year focused surveys were not required by USFWS for the vast majority of these Planning Areas. However, a habitat suitability survey conducted in June 2005 by USFWS approved biologists recommended that two-year focused surveys be conducted along a 13.4 acre strip of land at the southeastern portion of Planning Area 10A. The protocol focused surveys have been completed and no individuals were present; therefore, it was determined that DSF does not occupy Planning Area 10A.

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Planning Area 6A was the subject of a July 2005 biological resources evaluation prepared by the Chambers Group. The habitat assessment conducted for DSF determined that suitable habitat does not occur onsite; therefore, two year focused protocol surveys were not warranted for this Planning Area.

Planning Area 11 was the subject of a December 2005 biological resources evaluation prepared by TeraCor Resource Management. Two year protocol surveys were conducted in 2004 and 2005. The results of the surveys determined that DSF does not occupy Planning Area 11.

Planning Areas 1B, 3B, 5, and 8A were the subject of a DSF habitat suitability surveys in October 2005 and August 2006. The results of the survey indicated that suitable habitat is present at Planning Areas 5 and 8A. The first year of the two-year focused surveys for DSF was required by USFWS and completed in September 2006; DSF was not observed. Based on conversations with the field biologist conducting the DSF surveys, it is anticipated that no DSF are located on these portions of the Project Site due to the disturbed nature of the substrate and historical and current pesticide use. It is therefore, anticipated that the 2007 second year of the two-year focused surveys will render negative results as well (Personal communication with Gilbert Goodlett, DSF Biologist, October 16, 2006).

The vast majority of the Project Site has been confirmed to be unoccupied by DSF and to also not contain any suitable habitat for DSF. If DSF is determined to occupy Planning Areas 1A, 1C, 2B, 5, 8A, or 8B, no discretionary entitlements will be provided to the developer or landowner until the developer and/or landowner obtain the necessary permits from the USFWS. Although suitable habitat is not expected on these parcels, due to the high level of recurring surface disturbances and overall absence of suitable habitat on the majority of the remaining Project Site, a Mitigation Measure (BR-2) has been included to require biological resources surveys to ensure that potential adverse effects to sensitive species, including DSF, are reduced to less than significant levels. The surveys will be conducted prior to the approval of the tentative tract maps for these Planning Areas.

Assuming that no DSF are found in Planning Areas 1A, 1C, 2B, 5, 8A, and 8B, the Project will have no direct or cumulative impacts on DSF.

Impacts Related to Jurisdictional Areas

According to the Biological Studies, with the exception of the Cucamonga Creek Channel, there are no drainage features on the Project Site. The Cucamonga Creek falls under the jurisdiction of the Army Corps of Engineers and will not be affected by implementation of the Project. Therefore, no impacts to jurisdictional waters would result from the Project.

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Impacts to Migratory Bird Habitat

The windrows found onsite would be removed as a result of implementing the proposed Project. The windrows are used by raptors and other migratory birds. Raptors are protected by the Migratory Bird Treaty Act as described above. Tree removal occupied by raptors could result in a significant impact.

In addition to tree removal, the conversion of agricultural lands and other open spaces onsite would eliminate foraging habitat that could be used by migratory birds. The combination of the removal of trees and foraging open space could result in a significant impact to bird species.

The City's Implementation Program considers open water bodies found throughout the Project Site as High Value Habitat on Exhibit 3 of the Biological Resources Technical Report, which is included as Appendix B of the Implementation Program document. The Implementation Program does not precisely define High Value Habitat, but references surface water features, which include agricultural ponds, detention basins, and other miscellaneous ponds, as providing "stepping stones" for migratory birds. Open water bodies could be used by migratory birds. However, Section 5.8.1 of the NMC Final EIR referenced that wildlife associated with dairy operations are likely to be non-native species or more common native species that are tolerant of human activity. The high-level of human and livestock activity would likely disrupt native species found elsewhere in the NMC. In addition, storm water retention basins are considered to be of marginal value habitat value due to the concentration of various pollutants. Nevertheless, removal of open water bodies could result in a potentially significant impact to bird species.

Mitigation Measures have been included in this EIR to reduce the potential impacts to migratory bird habitat to less than significant. Mitigation Measure BR-3 requires a nesting bird survey if tree removal is scheduled to occur during the breeding season (January 15th and August 31st). Additionally, If any active nests are detected, a buffer area around the nest(s) will be flagged and avoided until the nesting cycle is complete or it is determined that the nest(s) has failed. Mitigation Measure BR-4 requires developers to pay development impact fees. The fees collected will be used to acquire and restore mitigation lands to offset impacts to species now living in the New Model Colony and impacts to existing open space including migratory birds. With implementation of these Mitigation Measures, no significant impacts to migratory birds will occur.

Impacts Related to Wildlife Movement

During the surveys, no animal species were observed using the Project Site as a migratory corridor. Since the Project Site is predominantly surrounded by urban development and intense agricultural uses, the Project Site is not considered to serve as a wildlife corridor. Therefore, no impacts related to wildlife movement will occur with Project implementation.

5.5 CULTURAL RESOURCES

Information in this section is based on the following documents:

- NMC Final EIR, City of Ontario, October 1997.
- NMC General Plan, City of Ontario, January 1998.
- The City of Ontario's Historic Context for the New Model Colony Area, September 2004.

These documents are incorporated by reference.

In addition to the above documents, information in this section is also based on the following documents, collectively referred to as the "Cultural Resources Reports," which are included in their entirety in Appendix E of this EIR.

- Stantec Consulting, Inc., *A Phase I Cultural Resources Inventory and Paleontological Assessment for the 111-Acre Avenue Specific Plan Project, City of Ontario, County of San Bernardino, California*, April 19, 2006.
- Chambers Group, Inc., *Phase I and II Cultural Resources Survey of a 169-Acre Former Dairy Farm, Ontario, San Bernardino County, California*, October 2005.
- Chambers Group, Inc., *Cultural Resources Survey of 13 Parcels Consisting of 173-Acres, Ontario, San Bernardino County, California*, October 2005.
- Chambers Group, Inc., *Cultural Resources Survey of a 58-Acres Former Dairy Farm, Ontario, San Bernardino County, California*, August 2004.
- Chambers Group, Inc., *Cultural Resources Survey of a 163-Acre Former Dairy Farm, Ontario, San Bernardino, California*, September 2005.

5.5.1 Existing Conditions

The Project Site is situated in a region currently dominated by agriculture, especially the dairy industry in the western San Bernardino Valley. The nearest natural water source, the Santa Ana River, lies four miles north of the subject properties and the San Gabriel Mountains are located approximately 10 miles to the north. The Project Site is relatively level, with elevations ranging from 700 to 750 feet above sea level. All of the properties are currently used for agricultural activities and dairy farming, and exhibit such features as cow pens, metal canopies, and a number of small associated buildings and sheds. In addition, several single-family residences and ancillary buildings were also noted on the Project Site. The dairy and agricultural operations have completely altered the landscape in the Project Site, including

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portions of the corrals which are paved with concrete. As a result, traces of the native terrain and vegetation are sparse on the subject property.

Prehistoric and Historic Context

It is generally believed the human occupation of Southern California dates back to at least 10,000 years before present (BP). Archeological evidence indicates that the earliest inhabitants were hunters and gatherers, and with the addition of several key technologies, such as milling (8,000 to 4,000 years BP) and baked earth steaming ovens (4,000 to 2,000 years BP), semi-permanent villages were established. From 2,000 years BP until the beginning of European migration into the area (late 18th Century) population densities were high and settlement in permanent villages increased.

Ethnography accounts of Native Americans indicate the Tongva (or Gabrielino) once occupied the region encompassing the Project Site. Prior to European contact, the Tongva are believed to have been one of the most populous and wealthy Native American Tribes in Southern California. The Tongva lived in villages with populations ranging from 20 to 200 persons. By the late 18th century, the Tongva population had declined significantly due to dietary deficiencies and introduced diseases. Tongva communities near Spanish missions disintegrated as individuals succumbed to Spanish control, fled the region, or died. Later, many Tongva fell into indentured servitude to Anglo-Americans.

The first significant European settlement of California began during the Spanish period (1789 to 1821) when 21 religious missions and four military presidios were established. In 1821 with the success of the Mexican Revolution, Mexico controlled California, and in the 1830s the missions were secularized and the mission's landholdings were divided into large land grants called ranchos. The City of Ontario is located within the Rancho Santa Ana del Chino. With the conclusion of the Mexican-American War in 1848, California came under the political control of the United States. The discovery of gold in 1849 brought thousands of Anglo-American and other settlers to California. During this time cattle ranching supported the economy of Southern California. In 1882 the City of Ontario was founded by George and William Chaffy. Ontario was created by the Chaffy brothers to be a "Model Colony" for others settling the region.

Local Historic and Architectural Context

In 1967, the County of San Bernardino designated 14,000 acres of agricultural land in the Chino Valley located in the southwest area of San Bernardino County. This agricultural land, which has been protected by Williamson Act contracts and the 1965 Land Conservation Act, has been farmed primarily by Dutch, French Basque and Portuguese dairy farmers for the last 50 years. By the 1980s, this area had evolved

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into a world-class dairy center with more cows per acre and higher milk yields than anywhere else in the world. In the 1990s, as dairy operation costs escalated and the demand for housing in the region swelled, development pressures mounted and the process of incorporating this area into adjacent cities began. Anticipating the expiration of the Williamson Act Contracts, this area was divided and portions were incorporated into three adjacent cities. In 1999, 8,200 acres were annexed by the City of Ontario; in 2003, 5,000 acres were annexed by the City of Chino, referred to as the Preserve; and the City of Chino Hills annexed the remaining few hundred acres of land.

The City of Ontario, California, was named for Ontario, Canada by George Chaffey, a Canadian-born engineer who came to Riverside in 1880. He and his brother William acquired 1000 acres of the Garcia Rancho in 1881 which they intended to subdivide into small fruit farms. The Chaffeys purchased an additional 6,000 acres that would become the cities of Ontario and Upland. One of the keys to the Chaffeys success as developers was their creation of a "mutual water company" in which each landowner became a stockholder. The neighboring community of Chino can be traced to Isaac William's Rancho Santa Ana del Chino, known for its cattle and fine horses, its sugar beet factory, its dairy farms, and its truck farms in the early days. After Williams died, the Chino Ranch suffered difficult times until the ranch and some additional lands were purchased by Richard Gird in 1881.

Gird imported dairy cattle and built up a herd of 200 milk cows, which was the start of Chino's more recent role as a dairy center of Southern California. In 1887 he subdivided half the ranch and set aside the town site of Chino. After the turn of the century the area between Chino and Ontario became largely an agricultural area and eventually became one of the largest dairy farming areas in the State.

There are three distinct phases in dairy farming in Southern California. The first phase was from 1900-1930 and consisted of free grazing of the cattle. The dairies were concentrated around the peripheries of major metropolitan centers to service the areas with the largest populations. The first dairies before 1930s were small family concerns, consisting of five or six acres. At the turn of the century, dairies were scattered all around Los Angeles County because the population increase spurred the growth of the dairy industry. During the 1920s, the dairies gravitated to the southeastern part of the county around Paramount, Artesia, and Bellflower. The dairying areas of the Los Angeles Basin were largely populated by the Dutch immigrants who mainly settled around Hynes-Clearwater; today the area is known as Paramount. The 1930s saw a large increase in people migrating to the area. Dairies too, then began to spring up in small numbers.

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The second phase of dairying, from 1931-1949 saw a change from free grazing dairying to dry-lot dairying with the mechanization of milking. This era saw many changes in three areas of the industry; 1) an increase in the number of cows, 2) an increase in population, and 3) legislative price fixing of milk. World War II resulted in a population explosion that contributed to uncontrolled urban sprawl. People began to spread out from Los Angeles because of the availability of land and the low interest rates that were available for first time homeowners and the returning GIs. As housing tracts sprang up on suburban land, dairies located nearest to the metropolitan centers of population shifted to the peripheries. This relocation tended to concentrate the dairies in the vicinity of Artesia and Bellflower. The Bellflower-Artesia area was an ideal location for the dairying industry because of favorable weather conditions and because the district contained all of the specialized services that contributed to the efficiency of the industry. Hay and grain dealers, veterinarians, equipment handlers, specialized financing organizations, cattle brokers and a pool of skilled labors were all available within a few miles or a few minutes time.

The third phase of dairy farming in the Chino Valley occurred between 1950 and 1969 and consisted of the introduction of scientific feeding and breeding, resulting in larger herds and more productive dairy operations. The dairy properties that developed during 1950-1969 are located on very large parcels or on properties that comprise multiple smaller parcels. The average size for a property associated with this context is approximately 40 acres or more. As the mechanization of dairying advanced, the size of the parcel increased as the dairy farmer was capable of milking more cattle. The layout of the dairy property also changed as the dairy operation began to introduce new farming equipment for the mechanization process.

By 1979, the largest concentration of dairies in the world was located in the approximately 18 square miles that comprise the Chino Valley. Sixty percent of the milk produced in California was produced in this area. There were fewer than ten dairies in the actual city limits of City of Chino and about 30 dairies were lost from the City of Ontario due to the encroachment and construction of 30,000 homes to the City's southern edge. Some of the dairymen sold their land to developers for higher land prices (\$25,000 to \$50,000 per acre).

The largest number of dairy properties within the NMC study area consists of dairy operations that are associated with this historic context. These property types cover the entire NMC, but the properties with the larger land holdings are concentrated on the eastern half between Archibald Avenue and Milliken Avenue and the larger properties made up of numerous smaller parcels are located on the western half south of Edison Avenue. This is due to the fact that these larger operations required more space and the

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areas to the northwest of the NMC consisted of smaller lots that were already occupied by the earlier, smaller dairies.

Dairy properties that were constructed after 1950 will have more than one very large residence, or a series of large residences that comprise at least one residence constructed after 1950 and enlarged residences from earlier periods, attached two car garages or garages attached to the residences by a covered breezeway, a large "herringbone" style milking parlor designed in the Ranch style, numerous pole structures, large silos, large milk storage tanks, breeding stalls, calf stalls, rows of stanchions, grain bins, etc, and a huge expanse of open space behind the dairy buildings that is used for the production of feed and the processing of manure. These properties may also have additional small residences to house hired workers who live and work on the land which may be located near the family's residences or may be located somewhere else on the property. These houses are generally small and may have been the original house from the early part of the century that was occupied by the dairy owner (or past dairy owners) prior to the proliferation and productivity of the current operation, however, a few may be residences that were popular prior to that era, but may have been enlarged or remodeled to reflect the success of the more efficient dairy operations. Most of the workers' houses are either very small examples of the Ranch style, or are smaller residences constructed in styles that were popular prior to this era. A few properties may still fall within this context even if the residence was constructed prior to 1950, as the dairy farmer may have adapted an earlier dairy property to a mechanized dairy operation with the addition of a large residence and large milking parlor.

This period exhibits a shift in the barn architecture from the "flat style" milking parlor to a "herringbone" style. In the new milking parlor design, the cow's stanchions are placed at an angle in order to use space more efficiently and the cows climb a gentle grade from the floor into their stall so that when the milkers come along, they do not have to kneel because the cows are at an elevated height. This is a labor and time saving device because it eliminates the amount of time it takes for milkers to kneel down to access the udders of the cows. Most of the farms from this period will exhibit the "herringbone" style of barn in the agricultural preserve area. In addition to the change in the parlor layout, the modernized milking parlors are also equipped with milking machines that automatically express milk from the cow's teats and also stop automatically once the cow's milk flow lessens. All of the "herringbone style" milk parlors that were constructed after 1950 were designed in the Ranch style to match the residences.

If there is more than one residence, then the residences are constructed on either side of the milking parlor. All the buildings that are related to a post 1950 dairy property are painted in the same color scheme, even if the individual resources are not necessarily constructed in the same architectural styles.

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These large dairy operations have a circular driveway in front of the milk parlor and almost always have designed landscaping to complement the property as a whole, both in front of the milking parlor and in front of the residences. The property is often times surrounded by a matching fence as well.

The property will also have many other dairy facilities associated with the operation such as pole structures, silos, bins, stalls, etc. These resources are laid out behind the milking parlor and residences and are aligned in a geometrically spaced fashion; either perpendicular or parallel to the milking parlor.

The pole structures are long and narrow rectangular structures. The number of pole structures and associated farming equipment may reflect the size and productivity of the dairy operation. Behind the pole structures there is a large expanse of open space that is used for the production of feed and the processing of manure. Many of the dairy properties from the era have signs in front of their operations exhibiting the Dairy Association that they are connected with.

The physical relationship of resources within the boundaries of a property that was constructed after 1950 demonstrates how the “milk factories” operated and how the dairy farmers lived and operated their dairy farm during this period. Some of these dairies may still be operated by a single-family, but likely will be operated by multiple family members or hired hands that live and work on the land. Regardless, they often include additional houses for sons or daughter’s families, brothers, uncles, or the like. But most of the dairy operations that are associated with this context were built by former dairy farmers that had relocated in the Chino Valley after having moved from the Artesia area. Because of the small fortune they had gained from selling their land in Los Angeles County, the dairy farmers constructed these large dairy operations all at once and included the most advanced and efficient dairy facilities available in the nation at the time.

The multitude of the buildings and structures on the property combined with their geometric arrangement demonstrates the introduction of scientific feeding and breeding, resulting in larger herds and more productive dairy operations. Additionally, the size and style of the Ranch houses reflect the wealth that these dairy farmers had attained. Many of the larger Ranch style residences from this period appear to have been designed by architects or prominent builders, which further demonstrates the image and opulence of the post-1950 dairy farmers.

The change to the “herringbone style” milking parlors demonstrates the change in the increased productivity and the scientific advances that occurred in the milking industry. The presence of multiple residences on these properties represents the multi-generational nature of the industry and the importance that the dairy lifestyle played in the unity of the family. The manicured landscaping and

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general condition and continuity of the properties demonstrate the pride that the dairy farmers had toward their profession and the pride they had in the hard work and diligence of building up their dairy operations.

The milk trucks were replaced by large semi trucks, which continued to utilize the circular driveway in front of the milking parlor to express milk from the storage tanks. The signs displayed in front of the dairy operations exhibit the large presence of the dairy associations and the pride and loyalty that the dairy farmers have in membership with certain dairy associations.

The majority of properties in the NMC are associated with this historical context. This era demonstrates the flood of dairy farmers coming to the NMC area to dairy once they were entirely forced out of the Artesia and Dairy Valley area. This second wave of inhabitants represents the group of dairy farmers who held out in Los Angeles County for a premium return for the sale of their land so that they could not only relocate to the Chino Valley area, but could also increase their dairy operations and upgrade their facilities. The dairy farmers came to this region because there had already been an established network of dairy operations and support industries to make the move an economically and logically feasible one.

Project Site

Archeological Records

Archival records searches were conducted with the San Bernardino Eastern Information Center in Riverside California and the Archeological Information Center at the San Bernardino County Museum. These records failed to show any prehistoric archeological sites, isolates, or any historic cultural resources on the Project Site. (Isolates is defined as one or two artifacts occurring by themselves and not associated with an archaeological site; generally thought to represent items lost or discarded by people as they moved through an area.) Additionally, no National Register of Historic Places (NRHP), California Register of Historic Resources (CRHR), California Points of Historic Interest (CPHI), California Landmarks, or National Historic Landmarks has been previously recorded for the Project Site.

Historic Structures

The Cultural Resource Reports identified a number of houses and other structures associated with the Project Site's historic agricultural uses located on the Project Site. A total of eight structures at five different addresses were identified as potentially historic requiring further analysis as summarized in Table 5.5-1.

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Table 5.5-1 Potentially Historic Structures

Address	Structure
9490 Edison Avenue	House built in 1915
9203 Edison Avenue	2800 linear feet of fencing built in 1932
13990 South Archibald Avenue	House built in 1920; barn, shed and reservoir built in 1925
13838 South Archibald Avenue	Horse barn/stables built circa 1940
13923 Archibald Avenue	House built in 1955 L-shaped building behind main house Two farm support buildings

All other structures present on the Project Site were determined not to meet the criteria of being historically significant. In order for a resource to be designated a historical landmark, it must meet the following criteria:

- Associated with events that have made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California or the United States.
- Associated with the lives of persons important to local, California or national history.
- Embodies the distinctive characteristics of a type, period, region or method of construction or represents the work of a master or possesses high artistic values.
- Has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California or the nation.

5.5.2 Issues Identified During Public Scoping Meeting

No comments were made during the public scoping meeting regarding cultural resources.

5.5.3 Issues Identified in NOP and Amended NOP Comment Letters

The State of California Native American Heritage Commission responded during the NOP comment period, expressing certain concerns and recommending specific actions to be completed and documented as a part of the CEQA process.

Those concerns and actions include the following:

- Contact the appropriate California Historic Resources Information Center for a record search.

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- If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
- Conduct a Sacred Lands File search of the Project vicinity and contact specified tribal representatives in the project vicinity who may have information on affected cultural resources and sensitive sites.
- Lack of surface evidence of archeological resources does not preclude their subsurface existence.
- Lead agencies should include provisions for discovery of Native American human remains or cemeteries in their mitigation plans. Health and Safety Code §7050.5 and Public Resources Code §15064.5(a) and §5097.98 mandate procedures to be followed in the event of an accidental discovery of any human remains in a location other than a dedicated cemetery.
- Lead agencies should consider avoidance as defined in Section 15370 of the CEQA Guidelines when significant cultural resources are discovered during the course of project planning.

5.5.4 Thresholds of Significance

According to Appendix G of the CEQA Guidelines and the City's Initial Study form, potentially significant impacts related to cultural resources may result if a project:

- Causes a substantial adverse change in the significance of a historical resource as defined in Section 15064.5;
- Causes a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5;
- Directly or indirectly destroys a unique paleontological resource or site or unique geologic feature; or
- Disturbs any human remains, including those interred outside of formal cemeteries.

Resources are considered significant if they qualify as important according to the threshold in Section 15064.5(a) of the CEQA Guidelines, which defines the threshold for a "historical resource" as:

1. *A resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the California Register of Historic Places (Public Resource Code SS5024.1, Title 14 CCR, Section 4850 et seq.).*

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2. A resource that is included in a local register of historical resources, as defined in Section 5020.1(k) of the Public Resource Code or identified as significant in a historical resource survey meeting the requirements Section 5024(g) of the Public Resource Code, shall be presumed to be historically or cumulatively significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant.
3. Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be an historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the threshold for listing on the California Registrar of Historical Resources (Public Resource Code SS5024.1, Title 14 CCR, Section 4852) including the following:
 - a. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
 - b. Is associated with the lives of persons important to our past;
 - c. Embodies the distinctive characteristics of a type, period, region or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
 - d. Has yielded, or may be likely to yield, information important in prehistory or history.
4. The fact that a resource is not listed in, or determined to be eligible for listing in the California Register of Historic Resources, not included in a local register of historical resources (pursuant to Section 5020.1(k) of the Public Resources Code), or identified in a historical resources survey (meeting the threshold in Section 5024.1(g) of the Public Resource Code) does not preclude a lead agency from determining that the resource may be a historical resource as defined in of the Public Resource Code Sections 5020.1(l) or 5024.1.

5.5.5 Project Compliance with Existing Regulations

The regulatory setting for the Project includes the following: the City's Historic Preservation Ordinance, the Native American Heritage Commission, the National Historic Preservation Act, and Senate Bill 18.

City of Ontario Historic Preservation Ordinance

The City has adopted a Historic Preservation Ordinance which is codified in the Ontario Municipal Code in Title 9, Chapter 1, Part 5, Article 26. The following excerpts from this ordinance are presented to provide the regulatory setting of the Project.

Sec. 9-1.2605: Purpose and authorization

The purpose of the Historic Preservation Article is to promote the public health, safety, and general welfare by:

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- a. *Safeguarding the character and history of the City which is reflected in its unique cultural, historical, and architectural heritage, with emphasis on the "Model Colony" as recognized by an Act of Congress and presented at the St. Louis World's Fair in 1904;*
- b. *Promoting public knowledge, appreciation, and understanding of the City's past;*
- c. *Fostering civic and neighborhood pride in the beauty and accomplishments of the past;*
- d. *Promoting enjoyment and use of Historical Resources appropriate for the education and recreation of the people of the City;*
- e. *Enhancing the visual and aesthetic character, diversity and interest of the City;*
- f. *Enhancing property values and stabilizing neighborhoods within the City;*
- g. *Recognizing Historical Resources and protecting areas of historical buildings from encroachment of incompatible designs;*
- h. *Providing economic benefits to the City and its inhabitants through financial incentives for preservation;*
- i. *Protecting and enhancing the City's attraction to tourists and visitors;*
- j. *Stimulating business and industry;*
- k. *Promoting public awareness of the benefits of preservation; and*
- l. *Encouraging public participation in historic preservation, thereby increasing civic pride in the City's heritage.*

Sec. 9-1.2615: Designation Criteria

The following criteria are established for the designation of Historical Resources into one of the following categories:

- a. *Historic Landmarks. Any Historical Resource may be designated a Historic Landmark by the City Council pursuant to Section 9-1.2620 if it:*
 1. *Meets the criteria for listing on the National Register of Historic Places or the California Register of Historical Resources; or*
 2. *Is at least 50 years old or, if of exceptional importance; and is one or more of the following:*
 - i. *It exemplifies or reflects special elements of the City's history;*
 - ii. *It is identified with persons or events significant in local, state, or national history;*
 - iii. *It is representative of the work of a notable builder, designer, architect, or artist;*
 - iv. *It embodies distinguishing architectural characteristics of a style, type, period, or method of construction;*
 - v. *It is a noteworthy example of the use of indigenous materials or craftsmanship;*
 - vi. *It embodies elements that represent a significant structural, engineering, or architectural achievement or innovation;*

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- vii. *It has a unique location, a singular physical characteristic, or is an established and familiar visual feature of a neighborhood, community or the City; or*
- viii. *It is one of the few remaining examples in the City, region, state, or nation possessing distinguishing characteristics of an architectural or historical type or specimen.*

Native American Heritage Commission

The Native American Heritage Commission (NAHC) responded to the NOP and requested that the NAHC be contacted for a records search indicating that since a lack of surface cultural resources does not preclude the possibility that resources could be located below the ground surface. The NAHC conducted a Sacred Lands File Search and determined that no Native American cultural resources are located in the immediate Project vicinity. The NAHC recommended contacting individual Native American entities and provided a list of individuals/organizations that may have knowledge of cultural resources in the Project vicinity.

Senate Bill (SB)18

Senate Bill (SB)18 was approved by the California Legislature in September 2004 and codified as California Government Code (CGC) Section 65352. CGC Section 65352.3 requires local governments to consult with Tribes prior to the adoption or amendment of a general or specific plan proposed on or after March 1, 2005. In the case of an applicant-initiated general plan or specific plan proposal, if the local government accepts a complete application (as defined in CGC Section 65943) on or after March 1, 2005, the proposal is subject to consultation per CGC Section 65352.3.

The development application for The Avenue Specific Plan was accepted and deemed complete in April 2006. The application for the general plan amendment was accepted and deemed complete in September, 2006. Therefore, the provisions of SB 18 applies to the specific plan and general plan amendment elements of the Project.

As required by SB 18, the City contacted the NAHC to initiate the Tribal consultation process. In response to the City's correspondence, the NAHC directed the City to contact the following Tribes:

- Cahuilla Band of Indians
- Gabrielino Band of Mission Indians of California
- Gabrienlino Tongva Nation

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- La Jolla Band of Mission Indians
- Morongo Band of Mission Indians
- Pechanga Band of Mission Indians
- Ramona Band of Mission Indians
- San Fernando Band of Mission Indians
- San Luis Rey Band of Mission Indians
- San Manuel Band of Mission Indians
- Soboba Band of Mission Indians
- Serrano Band of Indians
- Twenty-Nine Palms Band of Mission Indians

Pursuant to SB 18, the City contacted the Tribes listed above on July 17, 2006. The Tribal Consultation List Request provided a detailed description of the proposed Project. The City's Tribal consultation list and sample letters sent to the NAHC and Tribes listed above are included in Appendix E of this EIR. Although the City had requested that Tribal comments and questions be submitted by September 4, 2006 (the close of the public comment period), Tribes have 90 days to respond pursuant to Government Code Section 65352.3(a)(2). Thus far, one response has been received. On August 14, 2006, the Morongo Band of Mission Indians indicated to the City by electronic mail that the Project Site was very unlikely to contain resources in which to consult and considered the consultation complete for this Project. The Tribe, however, requested that the City include mitigation to assess, recover, and consult should any resources be uncovered during Project construction.

5.5.6 Standard Conditions and Uniform Codes

Public Resources Code Section 5097.98 mandates that whenever the Native American Heritage Commission (NAHC) receives notification of a discovery of Native American human remains from a county coroner, it shall immediately notify those persons it believes to be most likely descended from the deceased Native American. The descendants may, with the permission of the owner of the land, or his or her authorized representative, inspect the site of the discovery of the Native American remains and may recommend to the owner or the person responsible for the excavation work means for treating or disposing, with appropriate dignity, the human remains and any associated grave goods. The

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descendents shall complete their inspection and make their recommendation within 24 hours of their notification by the Native American Heritage Commission. The recommendation may include the scientific removal and nondestructive analysis of human remains and items associated with Native American burials.

5.5.7 Design Considerations

The proposed Project has not been designed to specifically avoid potential Project impacts to historic or archaeological resources within the Project Site. The existing residences, dairy-related structures, and other onsite structures/facilities will be demolished.

Prehistoric Resources

As indicated in the Cultural Resources Reports, field surveys of the Project Site were conducted in August 2004, April 2005, August 2005, and March 2006. No prehistoric sites or isolated finds were observed during these surveys. Properties within the Project vicinity have been in agricultural use since at least the late 19th century. Extensive ground disturbance has resulted from the agricultural uses.

Additionally prior to the channelization of the Cucamonga Creek, this area would have been swept by floods on a regular basis, as evidenced by the loose sandy soil on the Project Site. It is not anticipated that significant prehistoric materials will be encountered as a result of implementation of the Project, however, Project mitigation measures are identified that will reduce any potential impacts to prehistoric resources to a less than significant level.

The Project will not have a significant or potentially significant impact on unique paleontological resources if construction excavations are limited to upper Late Holocene deposits. If construction excavations extend to the depth of undisturbed older Pleistocene deposits, the Project will have a potentially significant impact on unique paleontological resources.

Potential Historic Structures

The Phase I architectural survey conducted for the Project, and specifically those structures listed in Table 5.5-1, identified five properties that would require further examination due to the potential historic and/or architectural importance. The subsequent investigations were conducted in order to determine their eligibility for listing on the California Register of Historic Resources. The properties include:

- 13923 Archibald Avenue

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- 9490 Edison Avenue
- 9203 Edison Avenue
- 13990 South Archibald Avenue
- 13838 South Archibald Avenue

The properties were assessed for the four criteria of the CRHR:

Criterion 1 for its association with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States;

Criterion 2 for its association with the lives of persons important to local, California, or national history;

Criterion 3 for embodying the distinctive characteristics of a type, period, region or method of construction, or represents the work of a master, or possesses high artistic values; and

Criterion 4 for having yielded, or having the potential to yield, information important to the prehistory or history of the local area, California, or the nation.

In addition to the four criteria listed above, the properties were evaluated for the seven Qualities of Integrity related to eligibility for the CRHR:

- Location – The place the historic property was constructed or the historic event occurred.
- Design – The combination of elements creating the property's form, plan, space, structure, and style.
- Setting – The physical environment of the historic property.
- Materials – The physical elements combined at a particular period of time and in a particular pattern or configuration to form a historic property.
- Workmanship – The physical evidence of the craft of a particular culture or people during any given period.
- Feeling – The property's expression of the aesthetic or historic sense of a particular period of time.
- Association – The direct link between an important historic event or person and the property.

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A Phase II study (Appendix E) consisting of a deed search, examination of aerial photographs and research involving the agricultural and economic history of the parcel was conducted for the 13923 Archibald Avenue property. The survey was conducted to determine the eligibility of structures for listing on the CRHR as required by CEQA Guidelines Appendix G Section 15064.5. This survey consisted of an examination of County of San Bernardino Assessor Record's, preparing a deed search, conducting extensive archival research, and examining similar properties to determine architectural significance. An intensive site investigation of this property was conducted on June 19, 2005. Each structure on the site was recorded and photographed, and a sketch map of the layout of the buildings was created. The historic age of the residence located at 13923 Archibald Avenue was evaluated for eligibility to the CRHR.

The Phase II study concluded that it is highly unlikely the residential structure has been associated with any events or persons important in history; does not pose any distinguished engineering characteristics, and is not the work of a master builder; and the structure does not warrant any research potential beyond the record created during the Phase II study. Based on the results of the Phase II study, no additional evaluation is recommended, and the destruction of structures at 13923 Archibald Avenue would not constitute a significant impact to cultural resources.

With regard to the remaining four properties: 9490 Edison Avenue, 9203 Edison Avenue, 13990 South Archibald Avenue, and 13838 South Archibald Avenue, detailed Form B surveys were conducted in lieu of a Phase II investigation. As with the Phase II investigations, the Form B surveys consisted of a deed search, examination of aerial photographs, research involving the agricultural and economic history of the properties and a site survey. The surveys were conducted between June and August 2006. The surveys were conducted to determine the eligibility of structures for listing on the CRHR as required by CEQA Guidelines Appendix G Section 15064.5. The Form B falls under the jurisdiction of the Department of Parks and Recreation *Building, Structure, and Object Record*. Each Form B investigation is contained in Appendix E of this EIR.

The results of the Form B studies concluded that none of the four properties qualify for the CRHR based on the criteria previously described. Based on the results of the Form B studies, no additional evaluation is recommended, and the destruction of structures onsite would not constitute a significant impact to cultural resources.

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5.5.8 Cumulative Impacts

Future development of the NMC and surrounding area could impact archaeological and/or paleontological resources since excavation activities will disturb native soils. Additionally, new development would likely entail the demolition of existing structures, some of which may be historically significant. It is possible the NMC and surrounding area could contain undiscovered or unidentified archaeological, paleontological, and/or historical resources. As long as qualified personnel are retained to conduct surveys of land to be developed and are present, when necessary, during grading of approved developments, potential impacts to cultural resources will not be cumulatively considerable.

5.5.9 Mitigation Measures

NMC Mitigation Measures

- C-1 In order to fulfill the requirements of CEQA and to preserve the cultural and historical resources of the area, the following mitigation measures are recommended:
- For each proposed project which might impact cultural resources, any cultural resource in the Project vicinity should be identified in advance. A standard archaeological records check should be conducted through the San Bernardino County Museum Archaeological Information Center in Redlands. For properties bordering the Riverside county boundary, additional research should be conducted through the University of California, Riverside, Archaeological Research unit.
 - For each proposed project not previously surveyed within the past ten years, an intensive archaeological field survey should be completed under the supervision of a Society of Professional Archaeologists (S.O.P.A.) certified archaeologist. A technical report following format and content guidelines proposed by the Office of Historic Preservation must be completed.
 - For each proposed project with identified cultural resources, a formal evaluation of the resource(s) in accordance with the CEQA guidelines for significance (importance) must be completed.
 - For each project resulting in an adverse impact on a known significant resource, an appropriate planning approach must be required to reduce the impact to a level of insignificance.

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- For each project where grading into previously undisturbed soils is planned, the retention of a qualified archaeologist should be required to monitor the grading in order to identify any cultural resources which may be exposed, complete a preliminary evaluation of the resource, and recommend appropriate resource management for the treatment of the resource.
- For each future project, the City of Ontario should ensure the implementation of these recommendations through conditions of approval for any project.

Project Mitigation Measures

The Cultural Resources Reports concluded the potential for finding archaeological artifacts on the Project site is low. Although the Project has already complied with the NMC Mitigation Measures listed above, the following measures are further required to prevent potential impacts to undiscovered archaeological resources from becoming significant.

- | | |
|------|--|
| CR-1 | In the event that any subsurface archeological materials are encountered within any part of the Project Site, all ground-disturbing construction activities shall be suspended in the vicinity of the find until the deposit is recorded and evaluated by a qualified archeologist. |
| CR-2 | In the event that any human remains are found, all construction activities must cease immediately and a qualified archeologist and the San Bernardino County Coroner must be notified. |
| CR-3 | If the coroner determines the remains to be of Native American origin, he or she will immediately notify the Native American Heritage Commission (NAHC). The NAHC will then identify the most likely descendants to be consulted regarding treatment and/or reburial of the remains. The developer shall implement the recommendations of the most likely descendent pursuant to Public Resources Code Section 5097.98 et seq. |
| CR-4 | Prior to any excavation into undisturbed, older Pleistocene sediment, a qualified paleontologist shall be retained during construction excavations in underlying, older Pleistocene deposits, if any, to observe construction excavations. In the event any unique paleontological resource is encountered, the resource shall be salvaged, recorded, and curated. |

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5.5.10 Level of Significance After Mitigation

With the implementation of the NMC and Project mitigation measures, the proposed Project would result in a less than significant impact to cultural resources.

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Geologic and seismic conditions refer to the characteristics of the rock formations, the surficial (alluvial) deposits, and the fault systems within and in the vicinity of the Project Site, as such characteristics affect the implementation of the proposed Project.

Information in this section is based on the following documents:

- New Model Colony Final Environmental Impact Report, City of Ontario, 1997.
- The Avenue Specific Plan, JZMK, September 2006

These documents are incorporated by reference.

In addition to the above documents, information in this section is also based on the following documents, collectively referred to as the "Geotechnical Reports," which are included in their entirety in Appendix F of this EIR.

- Leighton and Associates, Inc., EIR-Level Geotechnical Investigation Proposed residential development, PA-3A and PA-4 Sites, Parente Dairies, Parcel Map Nos. APN 218-191-19 and 218-191-20, Subarea 18, SP (Stantec No. 2052 2044.00.000), South of Schaefer Avenue, East and West of Cucamonga Creek Flood Control Channel, City of Ontario, California, April 20, 2006.
- Lawson & Associates, Geotechnical Feasibility Study Proposed Residential Development DeGroot and Ferreria Dairy Farms, City of Ontario, California. February 7, 2005.
- Lawson & Associates, Geotechnical Feasibility Study Proposed Residential Development Dykstra Dairy Farm, City of Ontario, California. February 8, 2005.
- Lawson & Associates, Geotechnical Feasibility Study Proposed Residential Development Kaplan Parcel City of Ontario, California. October 19, 2005.
- Lawson & Associates, Geotechnical Feasibility Study Proposed Residential Development DeGroot Parcel City of Ontario, California. October 20, 2005.
- Lawson & Associates, Geotechnical Feasibility Study Proposed Residential Development Dykstra Parcel City of Ontario, California. October 20, 2005.
- Lawson & Associates, Geotechnical Feasibility Study Proposed Residential Development Ferriera Parcel City of Ontario, California. October 21, 2005.
- Lawson & Associates, Geotechnical Feasibility Study Proposed Residential Development Schoneveld Parcel City of Ontario, California. October 31, 2005.
- Lawson & Associates, *Geotechnical Feasibility Study Proposed Residential Development Jongasma Parcel City of Ontario, California*. November 2, 2005.

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- Lawson & Associates, *Geotechnical Feasibility Study Proposed Residential Development Koopman Parcel City of Ontario, California*. November 2, 2005.
- Lawson & Associates, *Geotechnical Feasibility Study Proposed Residential Development Anderson Parcel City of Ontario, California*. November 3, 2005.
- Lawson & Associates, *Geotechnical Feasibility Study Proposed Residential Development Harada Parcel City of Ontario, California*. November 3, 2005.
- Lawson & Associates, *Geotechnical Feasibility Study Proposed Residential Development Dotson Parcel City of Ontario, California*. November 4, 2005.
- Lawson & Associates, *Geotechnical Feasibility Study Proposed Residential Development Hettinga Parcel City of Ontario, California*. November 4, 2005.
- RMA Group, *Geotechnical Investigation for Anderson Property Edison Avenue East of Vineyard Avenue San Bernardino County, CA*. March 16, 2001.
- Pacific Soils Engineering, Inc., *Geotechnical Investigation Vander Eyk Property 38-Acre Subdivision Northwesterly of Haven Avenue and Edison Avenue, City of Ontario, California*, September 16, 2004.

In addition to the Geotechnical Reports identified above, in this section is also based on the following document, a copy of which is included in Appendix G of this EIR.

- Blasland, Bouck & Lee, Inc., *Phase I Environmental Site Assessment and Shallow Soil Sampling, Anderson Property APN No. 218-181-17 and 218-181-21, Ontario, California*. March 2001.

The NMC Final EIR, a program level document not intended for project level evaluation of individual projects, identified the following potential impacts associated with geologic and seismic hazards: chemical reactivity in soils, expansive soils, fault rupture, liquefaction, near-surface (perched) groundwater, seismicity, subsidence, and weak and compressible soils. The NMC Final EIR states that geotechnical and geological reports for individual subareas in the NMC will be required prior to the development of such subareas and that mitigation measures would be developed as a result of these studies. This section of the EIR is intended to conform to the recommendations contained in the NMC Final EIR and contains additional information specific to the Project Site.

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5.6.1 Existing Conditions

Existing conditions for the Project are discussed from a regional and Project Site setting.

Regional Conditions

Geologic Setting

The Project Site is located in the central portion of the Chino Basin in the northern portion of the Peninsular Range Geomorphic Province of California. Major structural features surrounding this region include the Cucamonga fault and the San Gabriel Mountains to the north, the Chino fault and Puente Chino Hills to the west, and the San Jacinto fault to the east. The Chino Basin is an area of large-scale crustal disturbance as the northwest trending Peninsular Range Province collides with the Transverse Range Province to the north (Leighton and Associates, Inc. 2006).

The NMC is underlain by Pleistocene and Holocene (recent) alluvial.

Regional Faulting and Seismicity

Southern California is a geologically complex area with numerous fault systems, including strike-slip, oblique, thrust, and blind thrust faults. Known active faults in the region that may affect the Project area are identified in Table 5.6-1 and shown on Figure 5.6-1.

The values in Table 5.6-1 for fault maximum moment magnitude (M_{max}) are per *The Revised 2002 California Probabilistic Seismic Hazard Maps* published by the California Geological Survey and the fault type is based upon a combination of the M_{max} and the fault slip rate data published by the United States Geological Survey and the California Geologic Survey, and is defined by Table 16-U of the 2001 California Building Code (CBC).

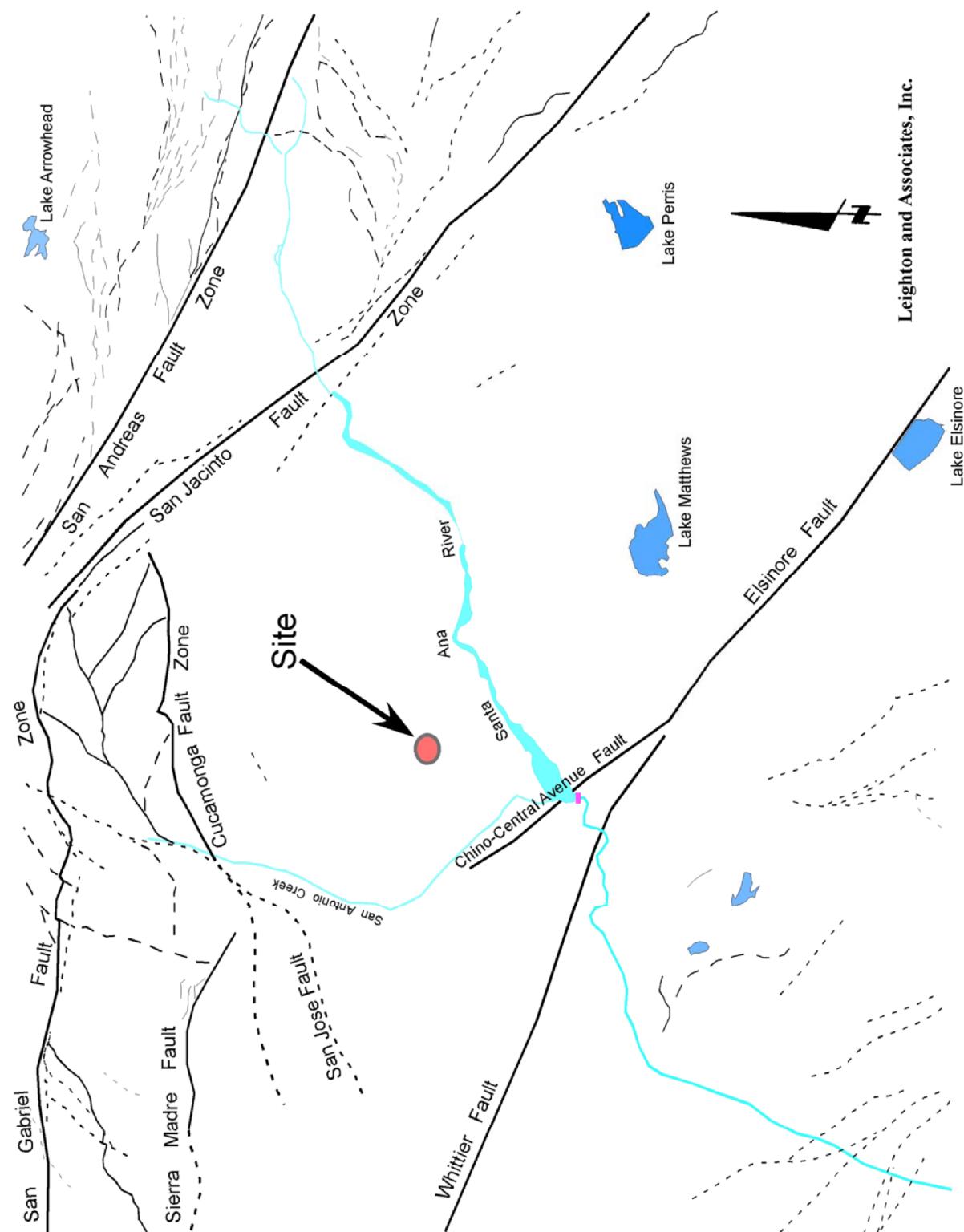


Figure: 5.6-1

Regional Fault Map The Avenue / New Model Colony

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Table 5.6-1 Regional Fault Systems

Fault Name	Distance and direction from the Project Site	Fault Type (2001 CBC, Table 16-U)	M _{max} (Maximum Moment Magnitude)
Chino-Central Avenue (Elsinore)	6 miles south	B	6.7
Whittier	9 miles southwest	B	6.8
San Jose	10 miles west	B	6.4
Elsinore-Glen Ivy	11 miles southwest	B	6.8
Cucamonga	11 miles north	A	7.0
Sierra Madre	12 miles northwest	B	7.2
Puente Hills Blind Thrust	13 miles west/southwest	B	7.1
San Jacinto-San Bernardino	9 miles east/northeast	B	6.7
San Jacinto-San Jacinto Valley	20 miles east/northeast	B	6.9
San Andreas- San Bernardino	20 miles east	A	7.5

Table modified from Lawson & Associates, 2005(a-r) with information from Leighton and Associates, 2006

The primary effects of an earthquake include surface rupture, groundshaking, liquefaction, subsidence, differential settling, or seiches. The occurrence of any one of these effects depends on many factors including earthquake intensity, distance from epicenter, soils type, and moisture content of the soil. The following are considered primary and secondary seismic effects:

Surface Rupture - Actual displacement or fracturing of the ground in either a lateral or vertical direction which typically occurs directly over a fault. The Geotechnical Reports found no evidence of active fault structures onsite so the potential for surface rupture is relatively low.

Groundshaking - The wave energy released during an earthquake will result in ground shaking with the intensity largely dependent on soil type, surface geology, and earthquake intensity.

Liquefaction - This occurs when seismically induced groundshaking causes water-laden soils without cohesion to form a quicksand-like soil condition below the ground surface. Structural damage then occurs as building foundations lose ground support. Liquefaction most often occurs in areas of shallow groundwater underlying areas with loose, unconsolidated soils.

Subsidence and Differential Settling - As groundwater is withdrawn, areas of loose and soft soil materials could experience mass settlement from surface loading. Where there is a mixture of soil

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types with different compressibility, differential settling can occur. Shaking for any length of time could cause additional densification of the underlying soils, thus lowering the ground surface level. This is not usually considered a serious problem if adequate soil tests are made prior to construction and adequate building designs are employed.

Seiches - Groundshaking can cause standing waves or oscillations, called seiches, of water contained in ponds and reservoirs. With severe shaking, onsite or off-site reservoirs might experience seiching, which could cause tank rupture during severe events.

Soils

Soils in the region consist of Foster-Grangeville, Tunjunga-Delhi, Hanford-Greenfield, and Merrill-Chino associations. Historic and extensive dairy operations in the area have resulted in the commingling of manure with native soils resulting organic rich material which are not suitable for supporting structures or for use as compacted fill.

Groundwater

Regional groundwater elevations in the portion of the Chino Groundwater Basin within the NMC range from approximately 530-590 feet above mean sea level as monitored in 1991 (Envicom, 1997), Fall 2000 (Wildermuth Environmental, Inc, 2005, Figure 3-7), and Fall 2003 (Wildermuth Environmental, Inc, 2005, Figure 3-7). The Chino Basin Watermaster is implementing a program, known as the Optimum Basin Management Program that, among other things, monitors subsidence, groundwater recharge, and controls groundwater withdrawals in the Chino Basin.

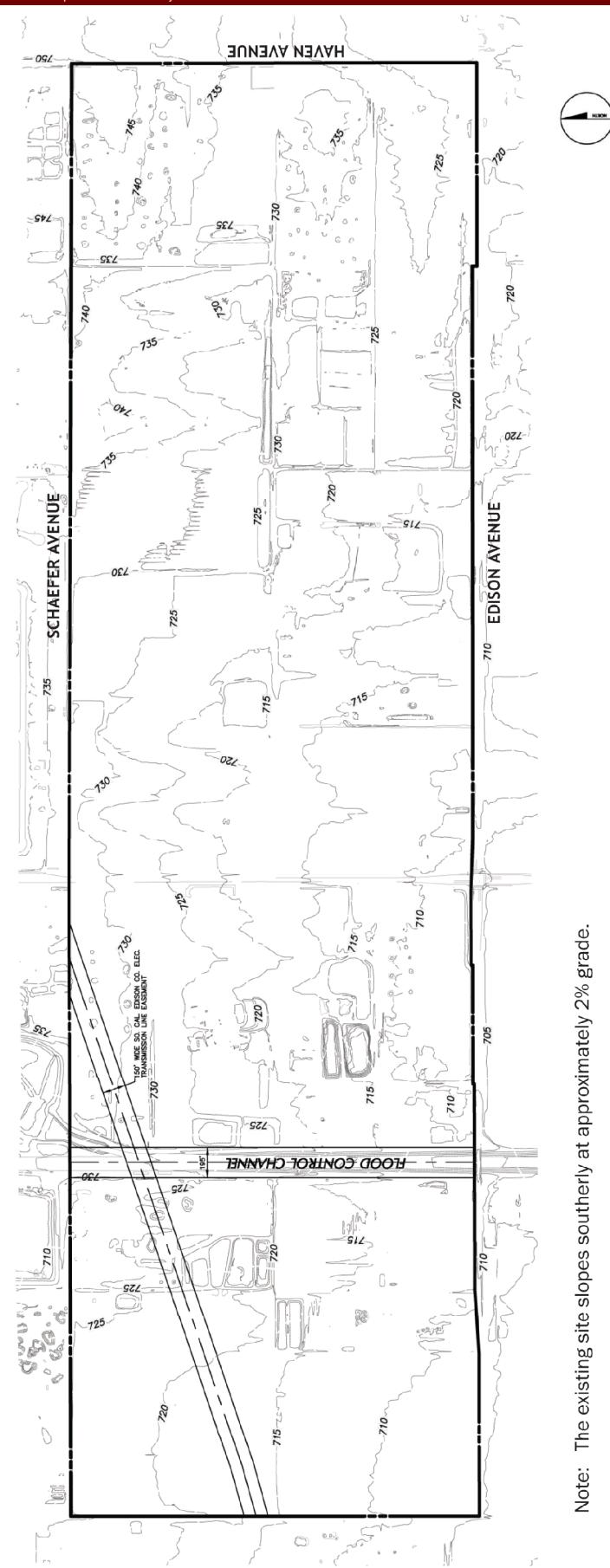
Project Site Conditions

The Project Site is located on a broad alluvial plain in the central portion of the Upper Santa Ana River Basin. Topographically the region is predominately flat-lying and gradually sloping southward (Blasland, Bouck & Lee, 2001).

According to The Avenue Specific Plan and the Geotechnical Reports, the Project Site slopes southerly from Schaefer Avenue at an approximate one percent (1% grade). Elevations on the Project Site range from 700 to 750 feet above mean seal level with higher elevations located in the northeast portion of the Project Site (Figure 5.6-2). The Project Site has been disturbed by dairy and other agricultural activities, streets, above ground electrical facilities including a substation, and the Cucamonga Drainage Channel.



Source: JZMK Partners



Note: The existing site slopes southerly at approximately 2% grade.



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Faulting and Seismicity

The Project Site is not located within an Earthquake Fault-Rupture Zone as mapped pursuant to the Alquist-Priolo Earthquake Fault Zoning Act of 1972. No known active or potentially active faults cross the Project Site. As indicated in Table 5.6-1, the nearest known potentially active fault is the Chino-Central Avenue Fault located approximately 6 miles south of the Project area.

Due to the proximity of the Project Site to the earthquake faults identified in Table 5.6-1, there is a high probability that the Project Site will be subject to strong seismic shaking. The intensity of the ground shaking on the Project Site depends primarily on the earthquake magnitude, faulting mechanism, distance and depth from the source, and the site response characteristics (Leighton and Associates, 2006).

The Uniform Building Code (UBC) identifies six seismic zones - 0, 1, 2A, 2B, 3, and 4, which represent increasing potentials for seismic risk. Zone 0 represents minimum seismic risk while Zone 4 represents maximum seismic risk. Zone 4 corresponds to areas where peak accelerations on rock are expected to be greater than 0.3g (g = unit force of gravity). Seismic damage to an area listed as Zone 4 can result from several different factors, the largest of which is ground shaking. Strong shaking will produce a large amount of damage to buildings, utilities, and roads as well as possibly causing other hazards including landslides and liquefaction. Damage to structures and roadways can range from minor to severe depending on the magnitude and location of the seismic event. The Project Site is within UBC seismic zone 4.

Soils

Soils throughout the Project Site are characterized by Alluvial and Eolian deposits underlain by artificial fill at depths from 2 to 5 feet. The soil composition is generally fine to medium grained sediments (layered sand, silty sand, and sandy silt) while soil densities range from loosely dense to very dense depending on soil type and depth. The dairy farms that have been operating throughout the Project Site have produced large quantities of manure, which along with organic-rich soil overlay the natural soils. Undocumented artificial fill is also present on the Project Site. This fill generally consists of medium dense, fine grained silty sand, and sand.

Groundwater

The Geotechnical Reports indicate groundwater in the Project Site is likely to be found at depths greater than 125 feet below ground level.

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Liquefaction Potential

The Project Site is not located in an area mapped as potentially liquefiable per the San Bernardino County Official Land Use Plan (Leighton and Associates, 2006). Additionally, according to the Geotechnical Reports, given the depth of groundwater on the Project Site the potential for liquefaction or seismically induced settlement throughout the Project Site is low.

Local Geologic Formations, Landslides, and Rockfalls

According to The Avenue Specific Plan and the Geotechnical Reports, no unique geologic or rock formations or significant slopes are present on the Project Site. Thus landslides or rockfalls are not an issue on the Project Site.

5.6.2 Issues Identified During Public Scoping Meeting

No comments were made with respect to geological resources at the public scoping meeting.

5.6.3 Issues Identified in NOP or Amended NOP Comment Letters

No comments were received in response to the NOP or Amended NOP relative to geology.

5.6.4 Thresholds of Significance

According to Appendix G of the State CEQA Guidelines and the City's Initial Study form, potentially significant impacts related to geology, seismicity, or soils may result if a project:

- Exposes people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:
 - ❖ rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault (refer to Division of Mines and Geology Special Publication 42);
 - ❖ strong seismic groundshaking;
 - ❖ seismic-related ground failure, including liquefaction; or
 - ❖ landslides;
- Results in substantial soil erosion or the loss of topsoil;

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- Is located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse;
- Is located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property; or
- Has soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of wastewater.

5.6.5 Project Compliance with Existing Regulations

The UBC regulates the design of structures for factors such as excessive damage associated with seismic conditions. As previously stated, the Project Site is located within UBC seismic zone 4. All building within the Project Site will be required to comply with all applicable standards of the UBC.

NMC General Plan Policies 19.1.1, 19.1.2, 19.2.1, 19.2.2, 19.3.1, and 19.3.2 call for standards for investigations and surveys for projects in the tentative tract and development plan stages to determine the hazard potential related to seismicity, liquefaction, subsidence, and slope stability.

The NMC Final EIR states that soil erosion resulting from blown sand into and out of the NMC is addressed by the issuance of specific permits and dust control practices. The City requires a permit for development and construction activities for areas greater than one acre that will result in the release of wind blown sand. The City Building Official sets standards to minimize wind erosion. The Project will comply with these NMC General Plan policies and permit requirements.

Several other NMC General Plan policies are applicable to the Project as discussed in the following paragraphs.

Policy 21.1.1. Require that structures be sited and designed to prevent adverse funneling of wind onsite and on adjacent properties.

Implementation of this policy requires the orientation of buildings to avoid the funneling of wind onsite and on adjacent properties.

Policy 22.1.3. Require proposed development projects to determine if the project would be located in or near areas with significant erosion potential or soil engineering problems. Require proposed project applications to include a detailed discussion regarding the types of soil and locations, erosion potential or soil engineering problems, and erosion control plans. Mitigation plans must address methods to be used during all phases of project development, implementation, and operation.

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The Project has already complied with the policy by the preparation of the Geotechnical Reports. Individual developments within the Project Site will be required to obtain an NPDES stormwater permit for construction activities that will require implementation of best management practices to control both wind and water erosion. This policy also requires landscaping within the Project Site which should mitigate adverse wind erosion impacts. The Project will also comply with SCAQMD Rule 403, which requires actions that prevent, reduce, or mitigate fugitive dust emissions.

Policy 22.1.5. Require development applicants to certify that all deleterious materials, particularly organic residue from dairy, farming, or agricultural activity, have been removed, properly disposed, and will not impact the development during the project's life.

This policy will be implemented by future development pursuant to The Avenue Specific Plan by compliance with (i) existing City and State Regional Water Quality Control Board requirements as set forth in NPDES Permit No. CAGO18001 for removal of deleterious (i.e. harmful) materials resulting from agricultural operations and (ii) dairy closure requirements.

5.6.6 Design Considerations

The Avenue Specific Plan Design Guidelines (Section 6.5 of the Specific Plan) identifies landscaping requirements (i.e. number and type of plant materials) and landscape installation responsibility (i.e. builder/developer or homeowner) which will reduce the potential for blown sand to be generated during the lifetime of the Project.

5.6.7 Project Impacts

Implementation of the proposed Project would result in the ultimate development of the Project Site with residential, commercial, recreational, and public school uses plus the associated infrastructure to serve the new development, and the relocation of certain above ground electrical facilities owned by the Southern California Edison Company. The land uses proposed in The Avenue Specific Plan, would expose persons living and working on the Project to potential seismic events and development of structures on potentially unstable ground. Fault rupture could result in damage to structures resulting from movement along an identified fault. Seismicity resulting from fault movement would expose structures to damage from ground shaking and expose people to falling objects that become dislodged during a seismic event. Developments located on unstable ground would expose buildings to potential structural damage.

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The following sections present a discussion of project impacts organized per the thresholds of significance previously identified in Section 5.6.3.

Impacts Related to Seismic Events

Rupture of a Known Earthquake Fault

Given the distance of the Project Site from the faults identified in Table 5.6-1, and that the Project Site is not located within an Alquist-Priolo Earthquake Fault Zone or a County of San Bernardino Earthquake Fault Zone, the potential for fault induced ground rupture is less than significant (Leighton and Associates, Inc., 2006).

Seismic Ground Shaking

Given the distance of the Project Site from the Chino-Central Avenue Fault, which as indicated in Table 5.6-1 is potentially capable of producing a 6.7 magnitude earthquake, as well as the proximity of other known active faults, exposure to seismic ground shaking is a potentially significant impact.

Seismic Related Ground Failure

Ground failure such as liquefaction, lateral spreading, and settlement are considered secondary effects of seismic ground shaking. Liquefaction occurs when loose, non-cohesive, water-saturated soils are subjected to strong seismic ground motions of significant duration. These soils behave similarly to liquids and lose their bearing strength. Structures built on soils subject to liquefaction may tilt or settle when the soils liquefy. Liquefaction most frequently occurs in earthquake-prone areas underlain by young sandy alluvium where the groundwater table is less than 50 feet below the ground surface.

Liquefaction

According to the Geotechnical Reports, the Project Site is not located in an area identified as potentially susceptible to liquefaction since groundwater depths are approximately 125 feet below ground level, and shallow groundwater depths have not existed historically. Given this, the Project Site is not considered susceptible to liquefaction and thus the potential to expose people or structures to liquefaction on the Project Site is less than significant.

Lateral Spreading

Lateral spreading occurs when large blocks of intact nonliquefied soil move downslope on a liquefied substrate. The mass moves towards unconfined areas, such as a descending slope, and may move on slopes as gentle as one percent (1%). Given the depth of groundwater beneath the Project Site, the potential for lateral spreading on the Project Site is less than significant.

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Seismically Induced Settlement

Settlement occurs when sediment particles become more tightly packed thus reducing pore space. Unconsolidated, loosely packed granular alluvial deposits are especially susceptible to seismically induced settlement. Poorly compacted artificial fills may experience settlement, as well. Settlement could cause damage to structures. A preliminary seismically induced settlement analysis indicated a potential total settlement of approximately 1.25 inches or less and a differential settlement of approximately one-half the total settlement over a horizontal distance of 40 feet, which is considered to be potentially significant (Leighton and Associates, Inc., 2006). However, with over excavation of potentially compressible soils and foundation designs to limit distress of structures, these potential impacts will be less than significant.

Seismically Induced Landslides

M marginally stable slopes may be subject to landslides resulting from seismic shaking. Given the relative flat topography of the Project Site, the lack of natural slopes, and the lack of Project features that would result in slopes that could be affected by a seismic event, the potential for a seismically induced landslide is less than significant.

Seismically Induced Inundation

Strong seismic ground motion is capable of causing dams and levees to fail, which may result in downstream damage. No dams or levees are within or adjacent to the Project Site. The San Antonio Dam, which is primarily used for flood control purposes and does not typically contain significant amounts of water, is located approximately 11 miles northwest of the Project Site. The Project Site is within the San Antonio Dam Inundation Zone. However, since the dam does not typically contain significant amounts of water, the potential for seismically induced inundation is considered less than significant.

Tsunamis and seiches

Damage from tsunamis is generally confined to coastal areas that are 20 feet or less above sea level. Since the Project Site is not located near the coast or any confined bodies of water, the potential for risk of inundation from a tsunami or seiche is less than significant.

Impacts Related to Soils and Erosion

Compressible Soils

When fill soil or a building is placed on a site, the underlying soil layers experience a certain amount of compression, which can result in settlement. Some settlement occurs immediately after placement of the fill soil or building; while some settlement takes place over a period of time. The Geotechnical Reports identified moderately compressible soils in addition to manure, organic material and uncompacted fill as

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present on the Project Site, all of which are considered unsuitable for structural foundation support. Therefore, there is a potentially significant impact associated with compressible soils. However, with the excavation and removal of these soils and replacement with suitable engineered fill, these potential impacts will be less than significant.

Expansive Soils

Expansive soil underlying a foundation or slab can cause damage to the structure including heaving, tilting, and cracking of the foundation. Differential movement in buildings can result in damage to floors, walls, doors, and window frames. The Geotechnical Reports indicate the soils present on the Project Site are anticipated to have a very low expansion potential; therefore the impact from such soils is less than significant.

Corrosive Soils

Corrosive soils react with concrete or ferrous metals. The Geotechnical Reports indicate that corrosive soils are known to exist on the Project Site; therefore there is a potentially significant impact with respect to corrosive soils. However, if concrete that comes into contact with corrosive soils is designed based on Table 19-A-4 of the Uniform Building Code, and metals that come into contact with corrosive soils are protected according to the recommendations of a corrosion engineer, these potential impacts will be less than significant.

Erosion

As previously discussed in Section 5.6.1, the Project Site is generally level and not subject to high erosion potential that would result in down cutting, sheet wash, slumping, or bank failures from heavy rain events.

Construction of the proposed Project will not cause a significant change to local topography. The Conceptual Mass Grading Plan prepared for The Avenue Specific Plan does not propose significant changes in site elevations or excessive stormwater discharges that would result in a high potential for erosion. Therefore, implementation of the proposed Project would result in less than significant impacts related to soil erosion.

The proposed Project will result in a loss of topsoil due to the conversion of the Project Site to urban uses as a result of site grading. Since the Project Site would ultimately be converted to urban uses and no longer used for agricultural production, which would require topsoil, less than significant impacts due to the loss of topsoil would result from Project implementation.

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Impacts Related to Wastewater Disposal Systems

The Project does not propose the use of septic tanks or any alternative wastewater disposal systems. Wastewater disposal services would be provided through connections to a regional system as discussed in Section 5.16. Therefore, implementation of the proposed Project would not result in impacts related to onsite or alternative wastewater disposal systems.

5.6.8 Cumulative Impacts

Cumulative impact analysis of the Project considers the impacts of the Project in conjunction with the impacts of the surrounding developments within the NMC as identified in Section 4. Future development within the NMC would result in the conversion of predominantly agricultural uses to urban uses per the NMC General Plan.

Geotechnical impacts resulting from Project implementation are largely site-specific; however cumulatively significant impacts resulting from a major seismic event could include substantial property damage for the Project site and surrounding properties. These impacts would not be caused by the Project itself, but from the seismic event. It is anticipated that residents and businesses within the Project site and surrounding areas may experience disruptions of public services and utility services as a result of a major seismic event. Additionally, damage to structures resulting from a seismic event in the Project site could also be anticipated to be comparable in the surrounding areas.

It is anticipated that Federal and State responses to major seismic events will be necessary to supplement the public services that the Project and surrounding areas receive under non-emergency conditions. Although it is anticipated that the Project and surrounding area could be subject to considerable damage and disruption during and after a major seismic event, mitigation measures for the Project and surrounding projects should be sufficient to reduce impacts to an acceptable level. Acceptable impacts from a major seismic event would not preclude property damage and service disruptions, but, would provide for structural standards that reduce damage, protect public health, and facilitate recovery.

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5.6.9 Mitigation Measures

NMC Mitigation Measures

The Geology Section of the NMC Final EIR identified a single mitigation measure that required the City to develop a Grading and Geotechnical Investigation Standards manual.

Project Mitigation Measures

The analysis in this section has determined that the impact to geology can be mitigated to below a level of significance by applying appropriate engineering and design performance standards which have developed based on the Geotechnical Reports.

- GS-1 Structural design shall conform to the seismic related recommendations contained within the Geotechnical Reports. These recommendations shall be reviewed and be approved by the City.
- GS-2 Seismic related structural design shall conform to applicable recommendations from the Structural Engineers Association of California, the California Building Code, the Uniform Building Code, and City codes.
- GS-3 As part of site grading and prior to the commencement of building construction, unconsolidated fill materials, organic rich soils, and manure, shall be excavated and removed off-site, and shall be replaced with engineered fill.
- GS-4 As part of the site grading and prior to the commencement of building construction, potentially compressible soils, which includes undocumented fill, shall be excavated to firm, competent native material and removed off-site.
- GS-5 Soils shall be tested to determine their corrosive potential. If corrosive soils are proven to be located onsite, all concrete that comes into contact with corrosive soil shall be designed based on Table 19-A-4 of the Uniform Building Code. All metals that come into contact with corrosive soils shall be protected according to the recommendations of a corrosion engineer.
- GS-6 At the conclusion of site grading and prior to the commencement of building construction, soils at the finished grade elevation shall be tested to determine their expansion index. If the tested soils at the finished grade elevation exhibit a low, or higher, potential for expansion, the following construction measures shall be implemented: stiffened foundation design in accordance with the

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Uniform Building Code; deepened footings; and pre-saturation of the building pad to a specified moisture content.

5.6.10 Level of Significance After Mitigation

With implementation of the recommended Project Specific Mitigation Measures, the proposed Project would result in less than significant impacts related to geology and soils.

5.7 HAZARDS AND HAZARDOUS MATERIALS

This section describes the hazards associated with implementation of the proposed Project including, but not limited to former dairy and agriculture operations, electrical transmission lines and power facilities, and airport safety. Information in this section is based upon the following documents and correspondence received on the Notice of Preparation:

Phase I Environmental Site Assessments

- Blasland, Bouck & Lee, Inc. *Phase I Environmental Site Assessment and Shallow Soil Sampling, Anderson Property APN No. 218-181-17 and 218-181-21 Ontario, California*, March 2001.
- Carlin Environmental Consulting, *Environmental Site Assessment of The Vander Eyk Dairy 13750 S. Haven Avenue Ontario, California*, September 29, 2004.
- Geokinetics, *Phase I Environmental Site Assessment Koopman Property Ontario, California*, October 3, 2002.
- Geokinetics, *Phase I Environmental Site Assessment Schoneveld Property Ontario, California*, November 25, 2002.
- Geokinetics, *Phase I Environmental Site Assessment Harada Property Ontario California*, January 3, 2003.
- Geokinetics, *Phase I Environmental Site Assessment Jongsma Property Ontario, California*, August 29, 2003.
- Geokinetics, *Phase I Environmental Site Assessment Hettinga Property Ontario, California*, June 5, 2004.
- Geokinetics, *Phase I Environmental Site Assessment Ferreira Property 13950 Haven Avenue Chino, California*, February 17, 2005.
- Geokinetics, *Phase I Environmental Site Assessment DeGroot Property 14080 Haven Avenue Ontario, California*, February 28, 2005.
- Geokinetics, *Phase I Environmental Site Assessment Kaplan Property 13923 Archibald Avenue Ontario, California*, March 16, 2005.
- Geokinetics, *Phase I Environmental Site Assessment Anderson-Dotson Property Ontario, California*, November 25, 2002.
- Lawson & Associates, *Phase I Environmental Site Assessment Approximate 58-Acre Dairy Property 13737 South Archibald Avenue San Bernardino County, California*, December 19, 2003.
- Lawson & Associates, *Phase I Environmental Site Assessment Dykstra Dairy, 10129 Schaefer Avenue City of Ontario*, San Bernardino County California, February 8, 2005.
- Lawson & Associates, *Phase I Environmental Site Assessment Ferreira Dairy, 13950 Haven Avenue City of Ontario*, San Bernardino County California, March 15, 2005.

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- LGC Inland, INC, *Phase I Environmental Site Assessment DeGroot Dairy, 14080 Haven Avenue City of Ontario, San Bernardino County California*, February 7, 2005.
- Stantec, *Phase I Environmental Site Assessment L & M Dairy #2 Parentex Property, City of Ontario, California*, April 10, 2006.

These documents are contained in Appendix G of this EIR and hereinafter collectively referred to as the Phase I ESAs.

Phase II Environmental Site Assessment

- Lawson & Associates, *Phase II Soil Sampling Investigation, Del Amo Dairy, 13737 South Archibald Avenue, City of Ontario, San Bernardino County, California*, January 21, 2004.

This document is contained in Appendix G of this EIR and is hereinafter referred to as the Phase II Investigation.

Methane Gas Investigation

- Geokinetics, *Subsurface Methane Gas Investigation for The Koopman Property Ontario, California*, October 11, 2002.
- Geokinetics, *Subsurface Methane Gas Investigation for Schoneveld Property Ontario, California*, November 25, 2002.
- Geokinetics, *Subsurface Methane Gas Investigation for Harada Property Ontario, California*, January 3, 2003.
- Geokinetics, *Subsurface Methane Gas Investigation for Jongsma Property Ontario, California*, August 29, 2003.
- Geokinetics, *Subsurface Methane Gas Investigation for Hettinga Property Ontario, California*, June 5, 2004.
- Geokinetics, *Subsurface Methane Gas Investigation DeGroot Property 14080 Haven Avenue Ontario, California*, March 1, 2005.
- Geokinetics, *Preliminary Subsurface Methane Gas Investigation Kaplan Property 13923 Archibald Avenue Ontario, California*, March 16, 2005.
- Geokinetics, *Subsurface Methane Gas Investigation for Anderson-Dotson Property Ontario, California*, November 25, 2002.
- Lawson & Associates. *Preliminary Subsurface Methane Gas Investigation Ferreira Property Ontario, California*, February 18, 2005.
- Lawson & Associates. *Preliminary Methane Site Assessment, Proposed Residential Development, Dykstra Parcel, City of Ontario, California*, October 24, 2005.

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- Petra Environmental Division, *Report of the Site History Relative to The Potential for Methane Generation, 60-Acre Parcel, Designated as (APN 0218-201-44 and 15) Located in the City of Ontario, County of San Bernardino, California*, August 9, 2004.

These documents are contained in Appendix G of this EIR and are hereinafter collectively referred to as the Methane Gas Investigation Studies.

Other Documents

- New Model Colony Final EIR, City of Ontario, October 1997. This document is incorporated by reference.
- 1992 General Plan, City of Ontario, September 1992. This document is incorporated by reference.

Preparation of this section conforms to the recommendations contained in the NMC Final EIR and evaluates additional information specific to the Project Site that may not have been included in the broad, program-level evaluation of the NMC Final EIR.

5.7.1 Existing Conditions

Hazardous Materials and Risk of Upset

The NMC Final EIR identified that hazardous materials usage and waste generation in the Project vicinity are primarily associated with past agricultural uses which include fuels, organic waste, pesticides, fertilizers, asbestos, and lead-based paint.

The presence of suspected or known hazardous waste contamination sites within the Project Site and immediate vicinity was determined through the Phase I ESAs, the Phase II Investigation, and the Methane Gas Investigation Studies. Prior to actual field investigations, a computerized database search of various governmental agency lists, interviews, and review of historical aerial photographs were performed. CEQA Guidelines requires a lead agency to consult the lists of hazardous waste sites compiled by various State agencies (e.g. Cal EPA, the Department of Health Services, the State Water Resources Control Board, and the California Integrated Waste Management Board) pursuant to California Government Code Section 65962.5 (California Public Resources Section 21092.6). The database search included review of all of the required State lists and a search of various Federal (U.S. EPA) and local (San Bernardino County Fire Department) hazardous waste site lists.

The NMC Final EIR concluded that potential impacts regarding hazardous waste sites within the NMC would become fully known when individual Planning Areas are developed through the preparation of

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Phase I Environmental Site Assessments and, if applicable, the preparation of Phase II Environmental Site Investigations. Sixteen Phase I investigations (between 2001 and 2006) and one Phase II investigation (2004) were conducted for properties within the boundaries of The Avenue Specific Plan. (Note that Phase I investigations were not conducted for Planning Areas 1A, 1C, 2B, and 8B). Mitigation Measures have been included in this EIR requiring Phase I Investigations be conducted at these locations prior to the issuance of grading permits. The results of these studies are summarized in Table 5.7-1 below.

Table 5.7-1 Project Site Phases I and II Environmental Site Assessment Summary

Phase I			
Property	Planning Area	Potential Environmental Concerns	Reported Occurrences of Environmental Concerns
Anderson	2A	AST, petroleum products, herbicides, pesticides	None
Vander Eyk	11	AST, UST, diesel fuel, water wells	UST, waste discharge requirements, hazardous materials permit holder
L & M Dairy #2 (Parentex)	3A and 4	Petroleum products, pesticides, herbicides	None
Koopman	5	Toxaphene, UST, petroleum products, irrigation and water wells, septic tanks, lead-based paint, asbestos, debris disposal	Hazardous materials permit holder
Schoneveld	5	Lead-based paint, asbestos, septic system, water well, agricultural waste/debris, organics, UST	UST, waste discharge requirements, hazardous materials permit holder
Harada	5	Asbestos, lead-based paint, water well, miscellaneous agricultural and domestic debris, petroleum products, organics, UST, AST	None
Jongsma	7 and 8A	Septic systems, water wells, organics, AST, petroleum products, solvents, lead-base paint, asbestos	Waste Discharge Requirements
Hettinga	2A and 3B	Lead-based paint, asbestos, AST, septic system, organics	None
Ferreira (Richland)	9C, 10A, and 10B	Lead paint, asbestos, AST, petroleum products, organics, pesticides, herbicides, insecticides, spent batteries, septic systems	UST, Hazardous materials permit holder
Ferreira (Brookfield)	9C, 10A, and 10B	Lead paint, asbestos, AST, petroleum products, organics, pesticides, herbicides, insecticides, septic systems	UST, Hazardous materials permit holder
DeGroot (Brookfield)	9C and 10A	Pesticides, heavy metals, solvents, organics, petroleum products, lead-based paint, asbestos, spent batteries, septic systems	Hazardous materials permit holder

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Property	Planning Area	Potential Environmental Concerns	Reported Occurrences of Environmental Concerns
DeGroot (Richland)	9C and 10A	Pesticides, heavy metals, solvents, organics, petroleum products, lead-based paint, asbestos, spent batteries, septic systems, diesel fuel	Hazardous materials permit holder
Kaplan	7	Septic system, well and water tank, 550-gallon AST containing diesel fuel, petroleum products, organics, pesticides	Hazardous materials permit holder, UST
Anderson-Dotson	1B	Lead-based paint, asbestos, septic systems, pesticides, herbicides, fertilizers, AST, waste petroleum products and machinery	None
Distinguished Homes (Haakma)	6A and 6B	UST, AST, septic systems, wastewater and storm water management, pesticides, herbicides, fertilizers, asbestos, lead-based paints, lead in drinking water	None
Dykstra	9A, 9B, 9C, and 9D	Septic systems, wastewater and storm water management, pesticides, herbicides, fertilizers, UST and AST, asbestos, lead-based paints, lead in drinking water	UST, waste discharge requirements, hazardous materials permit holder
Phase II			
Property	Planning Area	Potential Environmental Concerns	Known Occurrences
Del Amo (Distinguished Homes) (Haakma)	6A and 6B	Organics, pesticides, herbicides, heavy metals	None

Overview of Phase I Environmental Site Assessment Findings

The following discussion provides an overview of the findings of potential presence of hazardous substances determined by the Phase I ESAs as presented in Table 5.7-1 above.

Hazardous Materials Databases

The following databases were searched in conjunction with the Phase I ESAs:

- NPL – National Priority List. Database of confirmed, proposed or deleted Superfund sites.
- CERCLIS – Comprehensive Environmental Response, Compensation, and Liability Information System. Database of current and potential Superfund sites currently or previously under investigation.
- RCRIS – Resource Conservation and Recovery Information System Sites. Database of facilities not currently classified by the EPA but are still included in the RCRIS database. Reasons for non classification include failure to report in a timely matter. No longer in business. No longer in business at the listed address. No longer generating hazardous waste materials in quantities which require reporting.

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- ERNS – Emergency Response Notification System. Database of emergency response actions. Data since January 2001 has been received from the National Response System database as the EPA no longer maintains this data.
- CHMIRS – California Hazardous Material Incident Reporting System. Database containing information on reported hazardous material incidents (accidental releases or spills).
- Notify 65 – Proposition 65 Records. Database that contains facility notifications about any release which could impact drinking water and thereby expose the public to a potential health risk.
- LUST – Leaking Underground Storage Tank Information System. Database maintained by the State Water Resources Control Board. It contains an inventory of reported leaking underground storage tank incidents.
- WMUD/SWAT – Waste Management Unit Database. Database maintained by the State Water Resources Control Board. It is used for program tracking and inventory of waste management units.
- UST – Underground Storage Tank. Database of the active underground storage tank (UST) locations.
- AST – Aboveground Petroleum Storage Tank Facilities. Database maintained by the State Water Resources Control Board of registered aboveground storage tanks.
- CA FID UST – Facility Inventory Database. Database containing active and inactive UST locations in California and maintained by the Regional Water Quality Control Board (RWQCB).
- HIST UST – Hazardous Substance Storage Container Database. Database of historical listing of UST sites and maintained by the State Water Resources Control Board.
- CA WDS – California Waste Discharge System. Database maintained by the State Water Resources Control Board. It includes the sites that have been issued waste discharge requirements.

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- DEHS Permit System – San Bernardino County Fire Department Hazardous Materials Division. Database maintained by the County of properties that have a hazardous materials permit. The listing includes UST's, medical waste handlers/generators, hazardous materials handlers, hazardous waste generators, and waste oil generators/handlers.

The regulatory agency databases indicated the following documented facilities onsite:

UST: Underground Storage Tank California State Water Resources Board's Hazardous Substance Storage Container Database.

- AG-John Schoneveld Dairy 14058 S Archibald Avenue (Planning Area 5)
- Dick Dykstra Dairy 10129 Schaefer Avenue (Planning Area 9)
- Ferreira Dairy 13950 Haven Avenue (Planning Areas 9C, 10A, and 10B)
- Oord Dairy (Vander Eyk) 13750 Haven (Planning Area 11)

CA FID UST: Facility database containing active and inactive UST sites maintained by the California State Water Resources Board and **HIST UST:** Historical UST Registered Database.

- Ohnson Bros. Egg Ranches, Inc 13610 S Archibald Ave (Planning Area 7)
(Kaplan)
- Schoneveld Dairy 14058 Archibald (Planning Area 5)
- Oord Dairy Inc. (Vander Eyk) 13750 Haven (Planning Area 11)
- Dick Dykstra Dairy 10129 Schaefer (Planning Area 9)

CA WDS: The California Waste Discharge System is a listing of California Sites which have been issued waste discharge permits. The California State Water Resources Board maintains this database.

- S & J Dairy (Jongsma) 9876 Edison Avenue (Planning Areas 7 and 8A)
- Dick Dykstra Dairy 10129 Schaefer Avenue (Planning Area 9)
- Robert Vander Eyk Dairy 13750 S Haven Avenue (Planning Area 11)
- John Schoneveld Dairy 14058 S Archibald Avenue (Planning Area 5)

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DEHS Permit System: San Bernardino County Fire Department Hazardous Materials Division.

- AG-Koopman & Sons Dairy 13898 Archibald (Planning Area 5)
- AG-Dykstra #3 31750 Archibald (Planning Area 9)
- Eggs West Ranches, Inc (Kaplan) 13610 S Archibald (Planning Area 7)
- Ohnson Bros. Egg Ranches, Inc 13610 S Archibald (Planning Area 7)
- AG Schoneveld Dairy 14058 Archibald Ave (Planning Area 5)
- Ag-Oord Dairy Inc. (Vander Eyk) 13750 S Haven (Planning Area 11)
- Ferreira Dairy 13950 Haven Avenue (Planning Areas 9C,10A, and 10B)

Phase II Soil Sampling Investigation

Of the 15 Phase I ESAs, one study recommended a Phase II Soil Sampling Investigation for two settling ponds located on the Del Amo Dairy (otherwise known as the Haakma and/or Distinguished Homes developer-controlled property, and Planning Areas 6A and 6B). The two ponds accept runoff from the dairy and row-crop farmland operations. Soil samples were analyzed for the presence of pesticides, herbicides, organics, and metals. The limited soil sampling investigation was designed to enable Distinguished Homes to evaluate an aspect of potential environmental risk. The soil sample results showed that there were no detectable pesticides, herbicides, volatile organics, semi-volatile organics, or Total Recoverable Petroleum Hydrocarbons (TRPH) in the samples collected. There were seven detectable metals concentrations in each soil sample and eight reported metals that were not detected. However, the report concluded that the results are not environmentally significant and no further action or additional metals analysis was recommended. Based on the results of the Phase II Investigation, no further soil sampling was recommended.

Other Risk Management Issues

Additional hazards that potentially affect the Project Site are discussed below.

Asbestos and Lead-based Paint

In addition to the results of the database searches, the NMC Final EIR referenced the likelihood that buildings located within the NMC would contain asbestos and lead-based paints if constructed prior to 1976 and concluded that lead-based paint and asbestos surveys would be required prior to any demolition activities.

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Asbestos

Asbestos is a naturally occurring mineral with unique qualities that include strength, fire resistance, resistance to chemical corrosion, poor conductivity of heat, noise and electricity, and low cost.

The primary concern with asbestos, or asbestos containing materials, is respiratory ailments caused when asbestos fibers are released into the environment and inhaled. The most common uses of asbestos likely to be encountered in or at structures and facilities on the Project Site would be: sprayed-on fireproofing in ceiling and attic spaces, thermal insulation on piping, building insulation, building materials (such as roofing tiles, wallboard, exterior siding, floor, and ceiling tiles), and as mixtures in numerous applications such as plaster, cement, adhesives, and sealants.

Lead-based Paint

Lead is a highly toxic metal which is known to have adverse affects on virtually every system of the body. While adults can be affected by excessive exposure to lead, the primary concerns are the adverse health affects on children. Numerous studies regarding lead have been conducted which indicate that, even at lower levels of exposure, lead can result in neurotoxic effects to children. This includes affecting the development of their brains and nervous systems, reducing intelligence quotients (IQs) and attention spans, and creating reading and learning disabilities and other behavioral problems. The primary paths of exposure are through ingestion and, to a lesser extent, inhalation.

Methane

Surface organic residue (e.g. manure and other organic deposition) within the soils could remain after discontinuation of dairy operations and, in some instances, after clearing and grading. Therefore, as part of the environmental review for the Project, the City required the proposed developer-controlled properties to undergo a methane gas investigation as identified in Table 5.7-2 below.

The purpose of the investigations was to screen for the presence of elevated levels of methane gas that may be present in the subsurface due to present and historic agricultural uses on the Project Site. The investigations are intended to be utilized by the City to assess the feasibility of the proposed residential developments within the Project Site. For specific findings and recommendations for individual properties, please refer to the individual methane gas investigations contained in Appendix G of this EIR.

The presence of methane gas in the subsurface is common where organic material such as grass, leaves, wood, manure, etc. are present in the soil. Methane is generated by bacteriological digestion or biodegrading of organic matter in the absence of oxygen. Where oxygen is present, carbon dioxide, rather than methane, is typically a result of biodegrading organic material. Methane is not toxic, however, it is combustible and potentially explosive at concentrations above 53,000 parts per million (ppm) in the

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presence of oxygen. This concentration is referred to as its Lower Explosive Level or LEL. According to the Methane Gas Investigation Reports contained in Appendix G, subsurface methane concentration of 10% of the LEL or 5,000 ppm has been adopted as an “action level” by a number of counties, municipalities, and other regulatory agencies in Southern California. Pursuant to the City’s Municipal Code Section 9-2.0435 (L), for those areas exceeding 5,000 ppm, mitigation measures shall be imposed on the Project by the City. Concentrations below 1,000 ppm are considered as “not detectable.”

Methane is lighter than air and therefore has a natural tendency to rise to the ground surface where it typically dissipates into the atmosphere. The presence of subsurface methane associated with the biodegradation of low levels of organic material in the soil is normally not problematic. The rates at which the organic material is decomposed and methane is generated are slow enough such that the gas dissipates naturally under normal circumstances. However, as methane migrates to the ground surface, the potential exists for its accumulation beneath slab-on-grade foundation systems. If the gas accumulates to high concentrations, and becomes pressurized, and a crack or other penetration is present in the floor slab of the home, detectable levels of methane may enter the interior of the home. Improvements, such as sub-slab vent lines or gas membranes, are often installed as an additional precaution when elevated subsurface gas levels are detected.

Eleven Methane Gas Investigations were conducted onsite between 2002 and 2005. The field sampling associated with the Methane Gas Investigation Studies included the installation and monitoring of subsurface gas probes. Methane Gas Investigations were not conducted on Planning Areas 1A, 1C, 2B, 3A, 4, 8B, and 11. Additionally, preliminary assessments were conducted for Planning Areas 6A, 6B, and 9A-9D; however, these assessments did not include sampling. The assessments recommended methane sampling in order to fully assess the potential for methane-related hazards to occur onsite. Mitigation Measures have been included in this EIR in order to assess methane gas concentrations, and recommend remediation if necessary, at these locations prior to the issuance of grading permits.

Concentrations of detected methane measured during the investigations are indicated in Table 5.7-2 below. Detailed results associated with each investigation are included in the individual reports found in Appendix G of this EIR. Specific mitigation measures identified in the Methane Gas Investigation Studies have been incorporated in this EIR.

Table 5.7-2 Project Site Methane Gas Investigation Summary

Property	Planning Area	Methane Levels (ppm)
Koopman	5	2,000
Schoneveld	5	Not Detected

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Property	Planning Area	Methane Levels (ppm)
Harada	5	Not Detected
Jongsma	7 and 8A	21,000 25,000 21,000 40,000 108,000
Hettinga	2A and 3B	Not Detected
DeGroot	9C and 10A	Not Detected
Kaplan	7	Not Detected
Anderson-Dotson	1B	Not Detected
Ferreira	9C, 10A, and 10B	2,000 7,000 35,000 48,000 93,000
Dykstra	9A, 9B, 9C, and 9D	*Not Sampled
Haakma	6A and 6B	*Not Sampled

*Not Sampled = A Preliminary Methane Site Assessment was conducted. Sampling was not conducted.

Removal of Organic Waste

Approximately 1.4 million cubic yards of manure will be removed during Project Site preparation activities (Hunsaker and Associates 2006). It is estimated that approximately 20% of the upper most layer of organic waste will be salvaged and processed for reuse/resale. Organic recycling is a common practice when converting former agricultural lands into urban development. The Inland Empire Utilities Agency, for example, maintains a composting facility in Chino, California. Key applications for compost organic materials are soil enhancement products and production of renewable energy. The remaining 80% of organic waste, however, is not suited for reuse (due to the repeated commingling of native soils) and will have to be disposed of at solid waste landfills.

Vector Control

The Project Site is contained within the historic San Bernardino Agricultural Preserve, which has been home to one of the largest dairy cattle populations in the world. The combined dairy operations in this area have resulted in the generation of millions of tons of manure each year. It is estimated that there are 2 million tons of manure stockpiled within that area (Santa Ana River Watershed Group 1999). As a result of the stockpiling of manure, there has been an increase in the fly population. To control the increasing fly population, chemical treatments are typically used. The West Valley Mosquito and Vector Control District promotes the practice of routine application of chemicals, in the absence of the ability to practice proper composting. However, the continued use of these chemicals has resulted in minor to severe resistance in the adult fly populations (Envicom Corporation 1998).

Activities that would increase the potential for standing water and the detention and water ponds associated with dairy operations have the potential to facilitate fly and mosquito populations. Pesticides are commonly used to successfully control the propagation of flies and mosquitoes. Additionally, as

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pesticides are used to control the increasing fly population, herbicides are also effectively used by dairies to control plant and algae population in the numerous dairy manure ponds and water ponds.

With the exception of Planning Areas 6A and 6B (Del Amo Dairy), none of the Phase I investigations identified environmental concerns in regards to chemical application practices. The Phase I Investigation conducted for Planning Areas 6A and 6B concluded that the sediments of the site wastewater settling ponds should be sampled to evaluate potential residual impacts. The results of the Phase II investigation indicated that there were no detectable pesticides, herbicides, volatile organics, semi-volatile organics, or Total Recoverable Petroleum Hydrocarbons (TRPH) in the soil samples collected. No further testing was recommended for the sites investigated.

Electrical Power Facilities/Transmission Lines and Electromagnetic Fields

Southern California Edison (SCE) provides electrical services to the City and the surrounding areas. A SCE substation is located within the Project Site at the northeast corner of Edison and Archibald Avenues. A SCE 220-Kv high-voltage transmission line right-of-way (SCE Corridor) bisects the northwest corner of the Project Site.

Electric fields are produced in electrical lines as a result of voltage applied to wiring, and are measured in volts per meter (V/m) or kilovolts per meter (Kv/m). Electric field strengths greatly diminish with distance from the source and many structures including trees and houses shield these fields. Magnetic fields are the result of the movement (current) of electricity. These fields are measured in Gauss, however this measure is extremely large, and fields from electrical lines are generally referred to in milligaus (mg). As with electric fields, magnetic field strengths decrease dramatically with distance from the source; however, structures such as trees or houses, do not shield magnetic fields. Exposure to electromagnetic fields (EMFs) from power lines or electrical substations is typically in the extremely low frequency (ELF) range of the electromagnetic spectrum.

No U.S. Federal agency has yet set ELF-EMF standards. Presently, neither the State nor the County of San Bernardino has provisions or codes regulating development near major transmission lines or substations. The NMC Final EIR identifies setback requirements for educational facilities from high-voltage lines.

In 1992, the U.S. Congress authorized the Electric and Magnetic Fields Research and Public Information Dissemination Program (Energy Policy Act, PL 102-486, Section 2118). This program was administered by the National Institute of Environmental Health Sciences (NIEHS), national Institute of Health, and the Department of Energy for the purpose of providing scientific evidence to clarify the potential for health risks from exposure to ELF-EMF. The program had two oversight committees, one made up of Federal

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agency representatives and the second formed from public interest groups, organized labor, state governments and industry. The program ended December 31, 1998 and with the publication of the 1999 *NIEHS Report on Health Effects from Exposure to Power-Line Frequency Electric and Magnetic Fields*.

The above referenced report concluded that “the scientific evidence suggesting that ELF-EMF exposures pose any health risk is weak.” This finding led the NIEHS to find that the evidence was “insufficient to warrant aggressive regulatory concern.” In addition, the NIEHS stated that it was its opinion that ELF-EMF exposure would not warrant listing in the National Toxicology Program’s annual “Report on Carcinogens” as an agent “reasonably anticipated to be a human carcinogen.”

The proposed Project identifies residential uses adjacent to the existing power line easements onsite. No U.S. Federal Agency, state or local standards related to EMF or ELF exposure have been established for residences located adjacent to power lines or other sources of EMFs. The NMC General Plan identified setback requirements for educational facilities from high-voltage lines based on the setbacks established by the California Department of Education standards (EMF-1, Section 5.10 of the NMC General Plan Final EIR). Based on the potential for similar “sensitive receptors” (e.g. children) to be affected in the residential setting, setbacks were also established for residences. The State Department of Education revised this policy in 2003 to allow school districts to encroach within the previously established setbacks based upon findings made in an EMF Management Plan.

Airport Operations

The Ontario International Airport (OIA) is located approximately 2.5 miles north of the Project Site, and is outside the area of influence as defined by CEQA Guidelines. However, the City’s General Plan discusses current and future operations at OIA. According to the NMC General Plan, the Project Site does not directly lie within the flight path of OIA. Aircraft from OIA fly over the general Project vicinity in a southeasterly direction away from the airport.

The Chino Airport is located approximately two miles southwest of the Project Site, and is also outside the area of influence as defined by CEQA Guidelines. It is currently classified as a General Utility (GU) airport located in the City of Chino and operated by the County of San Bernardino. The airport is planned to be classified as a Basic Transport Airport in the National Plan of Integrated Airport Systems (NPIAS) and is the designated general aviation reliever airport for John Wayne Airport in Orange County. A GU airport accommodates virtually all general aviation aircraft, whereas Transport category airports are designated for business jets and transport-type aircraft.

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5.7.2 Issues Identified During Public Scoping Meeting

During the Public Scoping meeting a question was asked regarding the relationship of the Chino Airport runway protection zone (RPZ) to the Project Site. An analysis of this issue is addressed in Section 5.7.7 below.

5.7.3 Issues Identified in NOP and Amended NOP Response Letters

In a letter dated August 18, 2005, the State Department of Toxic Substances Control (DTSC) identified that current or historic uses at the Project Site may have resulted in the release of hazardous wastes/substances. The comment letter from DTSC requests the identification of any known or potentially contaminated sites within the proposed Project Site and the identification of a mechanism to initiate any required investigation and/or remediation.

This section of the EIR addresses DTSC's comments by providing a summary of the Phase I, Phase II, and Methane Gas Investigations conducted for the proposed Project and Mitigation Measures for properties still in need of Phase I studies as well as for Project-related activities should suspected hazardous materials/wastes be encountered during Project implementation. The DTSC letter is contained in Appendix A of this EIR.

5.7.4 Thresholds of Significance

The City has not established local CEQA significance thresholds; however, according to the City's Initial Study Checklist and Appendix G to CEQA Guidelines, potentially significant impacts may occur if a project:

- Creates a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;
- Creates a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment;
- Emits hazardous emissions or handles hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school;
- Is located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment;

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- Is located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport and would result in a safety hazard for people residing or working in the Project vicinity;
- Is within the vicinity of a private airstrip and would result in a safety hazard for people residing or working in the Project vicinity;
- Impairs the implementation of or physically interferes with an adopted emergency response plan or emergency evacuation plan; and/or
- Exposes people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

5.7.5 Project Compliance with Existing Regulations

Pursuant to the City's Municipal Code Section 9-2.0435 (L), "*a methane gas assessment shall be prepared by a licensed professional with expertise in soil gas assessments for subdivisions proposed on former dairies, poultry ranches, hog ranches, livestock feed operations and similar facilities to determine the presence of methane gas within the project boundary. The methane gas assessment shall identify monitoring and mitigation strategies and approaches. All mitigation measures/plans and specifications shall be reviewed and approved by the City of Ontario.*"

The City's Building Division of the City of Ontario requires a Phase I Environmental Site Assessment to address methane issues prior to permit issuance. Methane investigation and design guidelines contained in the report and mitigation measures shall be submitted to the Building Division for review and approval.

The California Department of Toxic Substances Control (DTSC) is responsible for the monitoring and control of hazardous materials throughout the State. Identification, removal and/or remediation of all potentially hazardous materials found onsite shall be handled pursuant to applicable provisions of California law as required by DTSC. Locally, the San Bernardino County Fire Department Hazardous Materials Division, and the City Fire Department Hazardous Materials Division are responsible for working with the State to identify, permit, and monitor the clean up of all hazardous materials within their jurisdictions.

The City maintains a Household Hazardous Waste and Oil Recycling Program that allows residents to take their household hazardous waste to a collection center free of charge. The household hazardous

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waste center accepts the following household hazardous wastes from residents: motor oil and oil filters, chemical drain cleaners, auto and household batteries, auto and furniture polish, household cleaners, pool and hobby supplies, weed killers, pesticides and fertilizers, paints and paint thinner. The Household Hazardous Waste Collection Center is located at Fire Station #3, 1408 East Francis Street. Future residents of The Avenue will be notified, as all residents of the City are notified, of the availability of this service.

The California Aeronautics Act (Public Utilities Code, Section 21001 et. seq.) provides for the right of flight over private property, unless conducted in a dangerous manner or at altitudes below those prescribed by federal authority. The Act gives the State Department of Transportation Division of Aeronautics (Caltrans) and local governments the authority to protect the airspace defined by the Federal Aviation Administration's (FAA) Part 77 criteria. The act prohibits any person from constructing a structure or permitting any natural growth of a height that would constitute a hazard to air navigation unless a permit is obtained from Caltrans. No permit is required if it is determined that the structure or growth is not a hazard to aviation.

California Assembly Bill 2776 (AB 2776) took affect January 1, 2004. AB 2776 requires notification to buyers within two miles of an airport of proximity issues related to possible noise and over flights. In addition, Section 11010 of the Business and Professions Code and Sections 1102.6, 1103.4, and 1353 of the Civil Code (<http://www.leginfo.ca.gov/calaw.html>) address buyer notification requirements for lands around airports.

The State Education Code (Section 17215) requires proposed school sites within two miles of an airport to be evaluated by the State Department of Education and Caltrans. If Caltrans makes an unfavorable determination regarding the proposed school sites, no State or local funds can be used for site acquisition or building construction on that site.

In addition to the above laws and regulations, CEQA Section 21096 requires a "lead agency" to utilize the California Airport Land Use Planning Handbook (Handbook) published by the Division of Aeronautics of the Department of Transportation as a technical resource to assist in the preparation of the environmental impact report as the report relates to airport-related safety hazards and noise problems.

The southwest portion of the Project Site is located within the designated Safety Zone III for the Chino Airport, and, therefore, would require review by the City. According to the Chino Airport Plan, no restrictions are generally placed on residential uses within Safety Zone III.

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5.7.6 Design Considerations

Development within the Project Site will be designed to conform to the building height constraints identified in the NMC General Plan. The proposed Project is not otherwise designed to specifically avoid or reduce potential impacts related to hazards or hazardous materials.

5.7.7 Project Impacts

Demolition Activities

Impacts from exposure to lead-based paints and asbestos from demolition activities; in addition to abandonment of wells, septic systems, USTs, and, ASTs will have the potential to occur. The Project will be required to comply with specific State and Federal regulations for demolition and disposal activities. For example, the Project's domestic water will be provided by the City and the existing private wells located on the Project Site will be destroyed. All wells must be destroyed by a Licensed Contractor with a Well Driller's License (C-57) who follows the procedures outlined in the State Guidelines for this process, including:

1. Removal of the pump, electrical wiring, and any piping.
2. Excavation around the casing to a depth of 6 feet with the well casing cut off to the bottom of the excavation.
3. Fill the lower portion of the well with inert, clean material such as sand or gravel.
4. Filling the top 20 feet of the well casing with concrete/cement materials as approved by the Building & Safety Division.
5. Backfilling the excavation with native soil.

Additionally, review of the Phase I ESAs (contained in Appendix G of this EIR), indicated that risk of exposure to asbestos and lead-based paints is high due to the numerous structures within the Project Site constructed prior to 1976. Proper abandonment/removal of these systems will be necessary.

Demolition activities associated with the proposed Project are potentially significant.

Mitigation measures have been incorporated into this EIR to reduce all demolition-related impacts to less than significant.

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Short-term Construction Impacts

The Project will involve storing and utilization of limited quantities of petroleum products and other construction-related hazardous materials onsite during construction-related activities. With the mandatory compliance of the City's Environmental Performance Standards contained in the City's Municipal Code, Article 33, Section 9-1.3300 (City of Ontario 2000), the proposed Project will not create a health hazard or use, produce, transport, or dispose of materials that pose a hazard to human, animal, or plant populations within the Project Site. The Environmental Performance Standards are included in the Development Code to ensure that the City's residential neighborhoods and business community will be free from the environmental hazards of noise, vibration, dust, glare and other negative influences and to contribute to regional efforts to protect and enhance the environmental quality of life. Therefore, no impact from the temporary storage and usage of hazardous materials during the construction phase is anticipated.

Methane in Manure and Organic Soils

Surface organic residue (e.g. manure and other organic deposition) within the soils onsite may remain after discontinuation of agricultural operations and, in some instances, after clearing and grading. The potential for possible exposure of new development and human populations to explosive concentrations of methane released from onsite soils was assessed in the Methane Gas Investigation Studies contained in Appendix G. Soil samples at several of the properties (Jongsma PAs 7 and 8A, and Ferreira, PAs 9C, 10A, and 10B) indicated the presence of methane levels above the lower explosive limit (Table 5.7-2), and above the 10% threshold as described in Section 5.7-1, which is considered a potentially significant impact.

Methane sampling was not conducted for Planning Areas 1A, 1C, 2B, 3A, 4, 6A, 6B, 8B, 9A-9D, and 11. This is considered a potentially significant impact (City Municipal Code Section 9-2.0435 (L)). Mitigation measures requiring methane sampling for these Planning Areas have been incorporated into this EIR to reduce methane-related impacts to less than significant.

Long-term Operational Impacts

The Project will introduce new urban land uses: residential, retail, recreational, and educational. Hazardous materials commonly associated with these uses include household cleaning and janitorial products, herbicides, insecticides, and solvents. Handling and disposal of hazardous materials is regulated at Federal, State, and local levels; therefore, generation and use of hazardous materials by the proposed land uses is considered to have a less than significant impact.

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Emergency Access and Evacuation Routes

The Project Site will be served by the City Police Department, the City Fire Department, and Emergency Medical Services provided by the Fire Department. The Project will result in an increase to the current onsite population that would be subject to emergency evacuation or response in the event of a major disaster. The City's Disaster Preparedness Plan, as contained within the City's General Plan (1998), includes policies and procedures to be administered in the event of a disaster. The proposed Project Site is not located adjacent to any emergency evacuation route as identified in the City's General Plan. The General Plan indicates that in an emergency, all residents and workers in the Project vicinity would proceed as directed by public officials. The Project will comply with the requirements of the Ontario Fire Department and all City requirements for fire and other emergency access. Since the Project is required to comply with all applicable City codes, any potential impacts would be reduced to a less than significant level.

Vector Control

Implementation of the Project will, over time, result in the reduction of the volume of standing water and other sources associated with the agricultural activities where breeding mosquitoes can occur. With the abundance of manure and the presence of stagnant water, these populations may continue to propagate during the transition to urban uses, and build-out of the Chino/Ontario area. With proper vector control practices, health and safety impacts are not expected to be significant. However, past and present uses of pesticides and herbicides in agricultural operations can leave measurable residues in soils.

As previously stated, of the 16 Phase I ESAs, one study resulted in the recommendation for a Phase II Soil Sampling Investigation to determine, among other constituents, the presence/absence of pesticides and herbicides; the soil sample results showed no detectable levels for either. Therefore, no significant impacts in regards to historic and present vector control practices are anticipated.

Electromagnetic Fields

The northwest portion of the Project Site is bisected by high voltage (combination 550-Kv/220-Kv) SCE power lines and an SCE Substation is located at the northeast corner of Archibald Avenue and Edison Avenue. Varying levels of concern and information exist about the effects on human health from exposure to EMFs created by such high voltage lines. Prior to 1976, there was limited awareness of any potential adverse effects such as electrocution or fire caused by faulty wiring. A report published in 1979 identified a possible association between childhood cancer mortality and proximity of homes to power distribution lines. Over the next decade, much study in this area was completed by the Federal

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government and others, but considerable debate remained over what, if any, health effects could be attributed to ELF-EMF exposure. In 1992, the U.S. Congress authorized the Electric and Magnetic Fields Research and Public Information Dissemination Program (Energy Policy Act, PL 102-486, Section 2118). This program was administered by the National Institute of Environmental Health Sciences (NIEHS), national Institute of Health, and the Department of Energy for the purpose of providing scientific evidence to clarify the potential for health risks from exposure to ELF-EMF. The program had two oversight committees, one made up of Federal agency representatives and the second formed from public interest groups, organized labor, state governments and industry. The program ended December 31, 1998 and with the publication of the *1999 NIEHS Report on Health Effects from Exposure to Power-Line Frequency Electric and Magnetic Fields*.

The above referenced report concluded that “the scientific evidence suggesting that ELF-EMF exposures pose any health risk is weak.” This finding led the NIEHS to find that the evidence was “insufficient to warrant aggressive regulatory concern.” In addition, the NIEHS stated that it was its opinion that ELF-EMF exposure would not warrant listing in the National Toxicology Program’s annual “Report on Carcinogens” as an agent “reasonably anticipated to be a human carcinogen.”

The proposed Project identifies residential uses adjacent to the existing power line easements onsite. No U.S. Federal Agency, state or local standards related to EMF or ELF exposure have been established for residences located adjacent to power lines or other sources of EMFs. The NMC General Plan identified setback requirements for educational facilities from high-voltage lines based on the setbacks established by the California Department of Education standards (EMF-1, Section 5.10 of the NMC General Plan Final EIR). Based on the potential for similar “sensitive receptors” (e.g. children) to be affected in the residential setting, setbacks were also established for residences. The State Department of Education revised this policy in 2003 to allow school districts to encroach within the previously established setbacks based upon findings made in an EMF Management Plan.

Due to the lack of strong evidence of health risks associated with EMFs, the lack of Federal, State, and local standards for residential exposure to EMFs, and the State Department of Education’s revised standards which allows encroachment into previously established setbacks, potential impacts resulting from the proximity to high-voltage transmission lines are considered less than significant.

Wildland Fires

The Project Site is surrounded by predominantly agricultural uses and is not located near wildlands. The Project will remove the majority of existing brush from the Project Site as well as any other fire hazards

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associated with dairy farming which include grass, brush, hay, and manure piles. Therefore, the risk of loss, injury, or death involving wildland fires is less than significant.

Airport Operations

As previously indicated, OIA is approximately 2.5 miles north of the Project Site. The City's General Plan (1998) discusses current and future operations at OIA and describes impacts associated with those operations. Examination of this information reveals that the Project Site does not directly lie within the flight path of OIA and that no impacts are anticipated related to penetrations of air space, safety zones, or other protection areas. The only anticipated impact from OIA would be aircraft flying over the vicinity in a southeasterly direction away from the airport.

The Chino airport is located approximately two miles southwest of the Project Site. The southwestern most corner of the project site lies within Referral Area "C", or Safety Zone III which is defined in the Chino Airport Comprehensive Land Use Plan (Land Use Plan) as being an area at low risk of aircraft accidents. According to Figure III-9 (page 3-11) of the Land Use Plan, generally acceptable uses include residential, light commercial, school, and park uses within this area.

As previously stated, pursuant to CEQA, this EIR must evaluate the proposed Project using the Caltrans Handbook. The Caltrans Handbook takes into account the size, use, and configuration of airports and recommends land use types and intensities that would be appropriate for certain locations around an airport. The Avenue Specific Plan identifies single and multi family residential uses, commercial uses, neighborhood parks, and school sites. These uses within the Project Site are consistent with the allowable uses recommended in the Handbook; therefore, no hazard to persons living or working within the Project Site due to its proximity to the Chino Airport are likely to occur and potential impacts are less than significant based on the Caltrans Handbook recommendations. Table 5.7-3 provides the Caltrans Handbook Safety Compatibility Criteria Guidelines for Land Use Densities and Intensities.

Development within the Project Site will be required to meet the building height restrictions identified in the NMC General Plan of less than 150-feet. Since land uses are consistent with those allowed in the applicable air safety zone, and building heights will not exceed the NMC General Plan standards related to airport safety, the Project will not result in significant hazard impacts related to proximity to the Chino Airport.

Lastly, the Project Site is not located in the vicinity of any private airstrip; therefore, no significant impacts in regards to airport operations will occur with Project implementation.

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Table 5.7-3 Safety Compatibility Criteria Guidelines Land Use Densities and Intensities

MAXIMUM RESIDENTIAL DENSITY									
Safety Compatibility Zones									
Current Setting	(1) Runway Protection Zone	(2) Inner Approach/Departure Zone	(3) Inner Turning Zone	(4) Outer Approach/Departure Zone	(5) Sideline Zone	(6) Traffic Pattern Zone			
Average number of dwelling units per gross acre									
Rural Farmland / Open Space (Minimal Development)	0	Maintain current zoning if less than density criteria for rural / suburban setting				No Limit			
Rural / Suburban (Mostly to Partially Underdeveloped)	0	1 d.u. per 10 – 20 ac.	1 d.u. per 2 – 5 ac.	1 d.u. per 2 – 5 ac.	1 d.u. per 1 – 2 ac.	No Limit			
Urban to Partially (Heavily Developed)	0	0	Allow infill at up to average of surrounding residential area			No Limit			
MAXIMUM RESIDENTIAL DENSITY									
Safety Compatibility Zones									
Current Setting	(1) Runway Protection Zone	(2) Inner Approach/Departure Zone	(3) Inner Turning Zone	(4) Outer Approach/Departure Zone	(5) Sideline Zone	(6) Traffic Pattern Zone			
Average number of people per gross acre									
Rural Farmland / Open Space (Minimal Development)	0	10 - 25	60 - 80	60 - 80	80 – 100	150			
Rural / Suburban (Mostly to Partially Underdeveloped)	0	25 – 40	60 - 80	60 – 80	80 - 100	150			
Urban to Partially (Heavily Developed)	0	40 - 60	80 - 100	80 - 100	100 – 150	No limit			
Maximum Number of People per Single Acre	x 1.0			x 3.0	x 2.0	x 3.0			
Bonus for Special Risk-Reduction Bldg. Design	x 1.0	x 1.5	x 2.0	x 2.0	x 2.0	x 2.0			
* Multipliers are cumulative (e.g., maximum intensity per single acre in inner safety zone is 2.0 times the average intensity for the site, but with risk-reduction building design is $2.0 \times 1.5 = 3.0$ times the average intensity).									
Source: California Airport Land Use Planning Handbook, January 2002									

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5.7.8 Cumulative Impacts

Implementation of the proposed Project will provide for a variety of residential, retail, recreational, and educational uses. In general, the types of uses allowed do not include those that would result in the generation of substantial quantities of hazardous wastes or toxic materials. Compliance with Federal, State, and local regulations concerning the handling, transport, and disposal of hazardous materials and wastes would reduce impacts to less than significant levels. As related projects in the Project vicinity will be required to mitigate their own hazardous materials impacts, no significant cumulative impacts related to hazardous materials are anticipated.

With cumulative development within the OIA vicinity, additional populations could be exposed to some level of risk associated with aircraft activities and hazards. However, safety zones have been established to protect future uses and reduce hazards to an acceptable level of risk, and future development could be subject to review by the Airport Comprehensive Land Use Plan (ACLUP) to assure compatibility, should an ACLUP for OIA be developed. Therefore, no significant cumulative impacts related to airport operations are anticipated.

5.7.9 Mitigation Measures

Implementation of the NMC Final EIR mitigation measures and the following recommended mitigation measures would reduce potentially significant impacts to a less than significant level.

NMC Mitigation Measures

NMC HM-1 Prior to consideration of any future development proposal within the Sphere of Influence, project developers will be required by the City to submit a completed Phase I Environmental Site Assessment which, at a minimum, meets with the requirements of the most current standards of investigation established by the American Society of Testing and Materials (ASTM Standard E 1527).

Note: With the exception of Planning Areas 1A, 1C, 2B, and 8B the Project has complied with NMC HM-1. Project-specific Mitigation Measure HM-3 below stipulates the requirement for a Phase I ESA to be completed prior to the approval of the Tentative Tract Map, site plan or other discretionary approval for a given phase of development.

NMC HM-2 Prior to issuance of permits by the City of Ontario for major renovation or demolition of any pre-1976 structure within the Sphere of Influence, the project developer will be required to submit documentation to the City Building Department that asbestos and lead-based paint

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issues are not applicable to their property, or that appropriate actions will be taken to correct any asbestos or lead-based paint issues prior to development of the site.

Note: "Asbestos and lead-based paint issues" is in reference to the documentation of presence or absence of such substances and the requirement for City approval of the handling and disposal methods recommended in the individual Phase I ESA reports. The City will require the removal of those substances pursuant to the applicable regulations and guidelines established by the South Coast Management District, Department of Toxic Substances Control, and the United States Environmental Protection Agency.

NMC HM-3 In order to minimize risks to life and property associated with the handling, transporting, treating, generating, and storage of hazardous materials, projects within the Sphere of Influence will be required to comply with policies set forth in the City of Ontario General Plan.

Project Mitigation Measures

- HM-1 Removal of structures, including, but limited to, under- and aboveground storage tanks, septic systems, and water wells shall conform to all Federal, State, and local agency regulations (specifically with those required by the City Building and Safety Department and the Hazardous Materials Division of the San Bernardino County Fire Department). Due to the extensive disposal requirements and protocols contained within these regulatory schemes, implementation and adherence to these various regulatory requirements will ensure that no significant impacts occur.
- HM-2 Prior to grading activities, testing for the presence of methane gas in soils on Planning Areas 1A, 1C, 2B, 3A, 4, 6A, 6B, 8B, 9A-9D, and 11 shall be conducted. (The remaining Planning Areas within the Project Site have completed Methane Gas Investigations. The findings are summarized in Table 5.7-2 of this EIR.) Pursuant to the City Municipal Code Section 9-2.0435 (L), "*A methane gas assessment shall be prepared by a licensed professional with expertise in soil gas assessments for subdivisions proposed on former dairies, poultry ranches, hog ranches, livestock feed operations and similar facilities to determine the presence of methane gas within the project boundary. The methane gas assessment shall identify monitoring and mitigation strategies and approaches. All mitigation measures/plans and specifications shall be reviewed and approved by the City of Ontario.*"

Such an assessment may take two steps. A preliminary assessment will be done prior to grading to determine exactly where dairies have existed in the past so that the post grading assessment/mitigation measures can be focused on the portions of the Planning Areas that have

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included former agricultural activities. The second step will include actual testing of graded pads no sooner than 30 days after construction to determine if methane is detected above 5,000 ppm.

In addition to Project-specific Mitigation Measure HM-2, the following grading guidelines included in the various Methane Gas Investigations conducted for the Project shall also be adhered to:

- Careful clearing, grubbing, segregation, and stockpiling or disposal near surface, of organics-rich soils at the site prior to the initiation of mass grading activities.
 - The identification and segregation/stockpiling or disposal of deeper soils which contain elevated levels of organic material. Soils with an organic content of 0.4% or higher shall be segregated for controlled placement that ensures that methane levels are below 5,000 ppm.
 - Soils with organic content in excess of 0.4% shall not be placed as “deep” fill. Soils with organic contents in excess of this amount shall be placed in open areas within approximately two feet of the finished ground surface.
- HM-3 To eliminate the risk of ground cracking, manure shall be removed from the site, such that the organic matter content of onsite soils shall not exceed 2% (a 2% total organic content is allowed, of which no more than 1% can be manure) in the building foundation areas when mixed with underlying clean soils and imported fill.
- HM-4 To the extent not previously prepared and to properly assess and address potential hazardous materials within Planning Areas 1A, 1C, 2B, and 8B, a Phase I Environmental Site Assessment (ESA) shall be performed by a registered environmental assessor (REA) prior to the approval of the Tentative Tract Map, site plan or other discretionary approval for a given phase of development. If potential hazardous materials or conditions are identified in the Phase I report, the recommendations of the ESA shall be implemented. Such recommendations shall include surficial sampling and chemical analysis within agricultural areas or where soil staining was observed. The Phase I ESA shall be provided to the City and shall be included in any CEQA analysis prepared in connection with the consideration of the discretionary approval for development.
- HM-5 If, while performing any excavation as part of Project construction, material that is believed to be hazardous waste as defined in Section 25117 of the California Health and Safety Code is discovered, the developer shall contact the City Fire Department and the County of San Bernardino Fire Department Hazardous Materials Division. Excavation shall be stopped until the

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material has been tested and the absence of hazardous waste has been confirmed. If hazardous waste is determined to be present, the California Department of Toxic Substances control shall be contacted and the material shall be removed and disposed of pursuant to applicable provisions of California law.

5.7.10 Level of Significance After Mitigation

All potential significant adverse environmental effects will be reduced to below the level of significance identified for the Project following implementation of the NMC Final EIR Mitigation Measures and the Project-specific Mitigation Measures identified in this EIR.

5.8 HYDROLOGY AND WATER QUALITY

Information in this section is based on the following reports, all of which are incorporated by reference:

- New Model Colony Final Environmental Impact Report, City of Ontario, 1997.
- Master Plan of Drainage for the New Model Colony, City of Ontario and San Bernardino County Flood Control District, L.D. King, Inc., October 2000.
- Initial Study/Mitigated Negative Declaration, New Model Colony Infrastructure Master Plans, City of Ontario, August 2002.
- Water Supply Assessment and Written Verification of Sufficient Water Supply for the New Model Colony, Albert A. Webb Associates, October 27, 2004.
- 2004 Water Quality Report and Public Services Calendar, City of Ontario.
- Master Plan of Drainage Update, New Model Colony (East), City of Ontario, 35 Percent Submittal (prepared for NMC Builders, LLC), Stantec, March 31, 2006.
- Public Services Calendar July 2006-June 2007, City of Ontario

In addition to the above documents, information in this section is also based on the following documents, collectively referred to as the "Geotechnical Reports." The Geotechnical Reports are included in their entirety in Appendix F.

- Leighton and Associates, Inc., *EIR-Level Geotechnical Investigation Proposed Residential Development, PA-3A and PA-4 Sites, Parente Dairies, Parcel Map Nos. APN 218-191-19 and 218-191-20, Subarea 18, SP (Stantec No. 2052 2044.00.000), South of Schaefer Avenue, East and West of Cucamonga Creek Flood Control Channel, City of Ontario, California*, April 20, 2006.
- Lawson & Associates, *Geotechnical Feasibility Study Proposed Residential Development DeGroot and Ferreria Dairy Farms, City of Ontario, California*. February 7, 2005.
- Lawson & Associates, *Geotechnical Feasibility Study Proposed Residential Development Dykstra Dairy Farm, City of Ontario, California*. February 8, 2005.
- Lawson & Associates, *Geotechnical Feasibility Study Proposed Residential Development Kaplan Parcel City of Ontario, California*. October 19, 2005.
- Lawson & Associates, *Geotechnical Feasibility Study Proposed Residential Development DeGroot Parcel City of Ontario, California*. October 20, 2005.
- Lawson & Associates, *Geotechnical Feasibility Study Proposed Residential Development Dykstra Parcel City of Ontario, California*. October 20, 2005.
- Lawson & Associates, *Geotechnical Feasibility Study Proposed Residential Development Ferriera Parcel City of Ontario, California*. October 21, 2005.

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- Lawson & Associates, *Geotechnical Feasibility Study Proposed Residential Development Schoneveld Parcel City of Ontario, California*. October 31, 2005.
- Lawson & Associates, *Geotechnical Feasibility Study Proposed Residential Development Jongasma Parcel City of Ontario, California*. November 2, 2005.
- Lawson & Associates, *Geotechnical Feasibility Study Proposed Residential Development Koopman Parcel City of Ontario, California*. November 2, 2005.
- Lawson & Associates, *Geotechnical Feasibility Study Proposed Residential Development Anderson Parcel City of Ontario, California*. November 3, 2005.
- Lawson & Associates, *Geotechnical Feasibility Study Proposed Residential Development Harada Parcel City of Ontario, California*. November 3, 2005.
- Lawson & Associates, *Geotechnical Feasibility Study Proposed Residential Development Dotson Parcel City of Ontario, California*. November 4, 2005.
- Lawson & Associates, *Geotechnical Feasibility Study Proposed Residential Development Hettinga Parcel City of Ontario, California*. November 4, 2005.
- RMA Group, *Geotechnical Investigation for Anderson Property Edison Avenue East of Vineyard Avenue San Bernardino County, CA*. March 16, 2001.
- Pacific Soils Engineering, Inc., *Geotechnical Investigation Vander Eyk Property 38-Acre Subdivision Northwesterly of Haven Avenue and Edison Avenue, City of Ontario, California*. September 16, 2004.

Information in this section is also based on:

- The Avenue Specific Plan, JZMK, September 2007.

The NMC Final EIR evaluated potential impacts to water resources, which included hydrology and water quality. The NMC Final EIR stated that planned development within the NMC would require a storm water collection system (or drainage system) capable of handling the increased storm water flows associated with the urban land uses per the NMC General Plan. The drainage system anticipated in the NMC Final EIR is a network of storm drains and detention basins, to which each individual development in the NMC would be required to make a "Fair Share" contribution for the construction of these facilities. Maintenance of the "master" drainage facilities will be funded through a community facilities district that will be formed by the City and the NMC builders. The NMC Final EIR further states that if any projects are proposed prior to the completion of the master NMC storm drain system, such projects will be required to accommodate storm flows which exceed the existing offsite flows through the use of interim onsite detention basins (interim drainage facilities). The interim drainage facilities must be sized and located so that no excess storm water flows will be conveyed offsite. Thus, with implementation of the interim

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drainage facilities on a project by project basis, development of the NMC will not contribute to offsite flooding.

In addition to providing for drainage, the NMC Final EIR states that individual development projects will be required to conform to various storm water control measures, such as preparation of Storm Water Pollution Prevention Plans (SWPPP) and Water Quality Management Plans (WQMP).

5.8.1 Existing Conditions

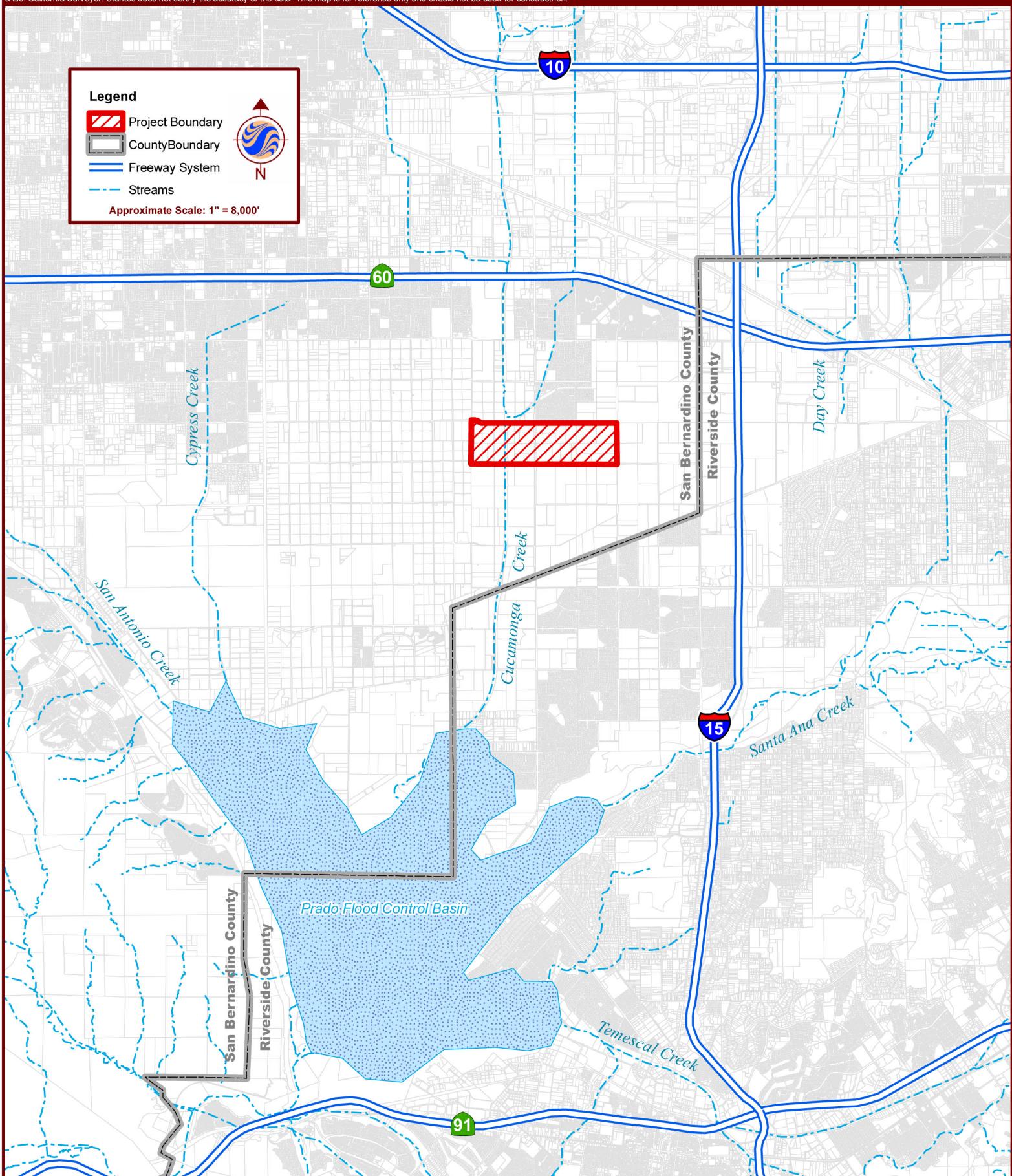
Existing conditions are presented from a regional and Site specific perspective.

Regional Conditions

Regional Hydrology

The City is located within the Santa Ana River Basin (SARB), a 2,700-square-mile area in the Coastal Range Province of Southern California located roughly between Los Angeles and San Diego. The Santa Ana River (SAR) is the largest stream system in Southern California, beginning in the San Bernardino and San Gabriel Mountains, which reach altitudes exceeding 10,000 feet, and flowing more than 100 miles to the Pacific Ocean. The SARB is a group of connected inland basins and open coastal basins drained by surface streams flowing generally southwest to the Pacific Ocean. The SARB can be divided into an upper basin and a lower basin. Upper Basin drainage in southwestern San Bernardino County (the County) consists mainly of snowmelt and storm runoff from the San Gabriel Mountains, which feeds into the Cucamonga Creek, a major drainage that flows through the City southwesterly to the El Prado control dam in the Chino Valley Basin on the borders of Orange and Los Angeles Counties. Waters drain via the lower Santa Ana River to the Pacific Ocean.

The City is located within the Santa Ana River Watershed District, which includes multiple tributary areas that contribute urban runoff along existing drainage channels. The SAR Watershed, which encompasses approximately 2,800 square miles, is located south and east of the City of Los Angeles. This watershed includes much of Orange County, the northwestern corner of Riverside County, the southwestern corner of San Bernardino County, and a small portion of Los Angeles County. Several major tributaries drain the upper portion of the SAR Watershed. On the western side, the Chino Creek and Cucamonga Creek Channels drain through the El Prado Basin before emptying into the lower SAR and ultimately the Pacific Ocean. Figure 5.8-1 shows the Project Site and its proximity to various surface water bodies.



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Cartographic Design By: Tracy Barger

Geographic Information Systems

Figure: 5.8-1

Surface Water The Avenue / New Model Colony



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The Santa Ana Regional Water Quality Control Board (SARWQCB) has divided the SAR into six geographic reaches, which vary in width, disturbance, and reliability of water source (California Regional Water Quality Control Board 1995). Reach 3 is the portion of the SAR nearest to the Project Site, extending from the Mission Boulevard Bridge (in Riverside) to the Prado Dam. Several of the tributaries that feed into Reach 3 of the SAR (Sunnyslope Channel, Tequesquite Arroyo, and Anza Park Drain) are supported by rising groundwater at Riverside Narrows. From the Riverside Narrows to Prado Basin, the SAR is generally in a natural and unmodified state. Water levels are generally shallow, temperatures are warm, and the channel bottom is dominated by shifting sands, creating only limited habitat for aquatic organisms. The Project Site is located approximately 3.5 miles north of Reach 3 of the SAR. Each Reach identified in the Basin Plan has assigned beneficial uses as discussed in Section 5.8.5 Project Compliance with Existing Regulations. Beneficial uses are threatened or lost when the water quality objectives are violated.

Surface Water Quality

Due to the extensive pervious surfaces, storm water runoff from agricultural and dairy lands is not as great as runoff generated from the impervious surfaces associated with urban land uses. Runoff from agricultural lands in the NMC either flows to roadside drainage ditches or discharges into fields or retention ponds before ultimately percolating through the soil, transporting excess salts and nutrients into the groundwater. Runoff with excess amounts of salts and nutrients also enter the Cucamonga Creek Channel before ultimately discharging into the Prado Basin.

The Project Site is located approximately 4.5 miles northeast of the Prado Basin, a large area of undisturbed, dense riparian wetland, and the largest wetland in Southern California. The Prado Basin was formed as the result of construction of Prado Dam, which was built to provide flood control, water storage and conservation for Orange County. Within Prado Basin, Orange County Water District (OCWD) manages approximately 465 acres of constructed wetlands. Water that contains nitrate in concentrations that may exceed water quality standards is diverted from the SAR, treated within the wetlands such that nitrogen levels are effectively reduced, and is discharged back into the SAR. The Prado Basin wetlands are rich in both plant and animal life and provides habitat for rare, threatened, and endangered species.

Cucamonga Creek Channel, an improved flood control facility and tributary to the SAR, bisects the Project Site and flows in a southerly direction to the Bellegrave County Line Channel. The SARWQCB has divided Cucamonga Creek into two reaches: Reach 1 (Valley Reach), which extends from the confluence with Mill Creek to 23rd Street in the City of Upland; and Reach 2 (Mountain Reach), which extends from 23rd Street in the City of Upland to its headwaters in the San Gabriel Mountains (California Regional Water Quality Control Board 1995).

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Cucamonga Creek Channel Reach 1 is an improved rectangular or trapezoidal flood control facility along its entire length. Downstream of the Project Site, below Hellman Avenue where the Cucamonga Creek Channel is renamed Mill Creek, the channel is in a natural state before it discharges to Prado Basin. The maintenance of Mill Creek is the responsibility of the Army Corps of Engineers and outside of the City's control.

Rainy season (October-May) flows in the Cucamonga Creek Channel are dominated by storm water, while dry season flows consist of wastewater treatment facility discharges and urban runoff. Water quality in the channel at the Project Site is influenced by wastewater discharge, and runoff from urban and agricultural uses, including dairies.

Cucamonga Creek Channel Reach 1 is listed on the Clean Water Act Section 303(d) list as impaired for high coliform count. To address this impairment, a total maximum daily load (TMDL), defined as the maximum pollutant load that a waterbody can receive and still attain water quality standards, was presented at a public workshop held June 24, 2005, adopted by the Santa Ana Regional Water Quality Control Board on August 27, 2005, adopted by the State Water Resources Board on May 15, 2006, and is awaiting approval by the office of Administrative Law (Rice 2006). The TMDLs are discussed in Section 5.8.5.

Mill Creek is also listed on the Clean Water Act Section 303(d) list as impaired for nutrients, pathogens, and suspended solids. The potential sources of these pollutants are agricultural operations and dairies in the NMC. Mill Creek also has established numerical water quality standards, as listed in the Basin Plan and discussed in Section 5.8.5. Cucamonga Creek Channel/Mill Creek discharges into Reach 3 of the SAR, also listed on the Clean Water Act Section 303(d) list as impaired for pathogens, which is expected to be a result of the upstream dairies.

Storm water pollutants include a wide array of environmental, chemical, and biological compounds from both point and nonpoint sources. In the urban environment, storm water characteristics depend onsite conditions (e.g., land use, perviousness, and pollution prevention), rain events (duration or intensity), soil type and particle size, multiple chemical conditions, the amount of vehicular traffic, and atmospheric deposition. The EPA estimates that short-term runoff from construction sites, without adequate erosion and runoff control measures, can contribute more sediment to receiving waters than that deposited by natural processes over a period of several decades.

Non-point source pollution (NSP) is now considered to be the leading cause of water quality impairments in the State, as well as the entire nation. NSP is not as quantifiable as pollution that is derived from point

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sources, since it occurs through numerous diffuse sources. Rain water, snowmelt, or irrigation water can pick up and transport pollutants as it moves across land or paved surfaces that may ultimately be discharged into streams, lakes, oceans, and groundwater. Urban areas and agricultural uses both contribute to NPS pollution in surface waters. As rainfall or irrigation waters intercept pollutants in the landscape, these pollutants may be transported in contaminated runoff and enter streams, lakes, and oceans. Pollutants associated with urban areas include fertilizers and pesticides used on urban landscapes; oil and grease from vehicles; brake pad residues and other pollutants associated with highway and parking lot runoff.

Groundwater Resources

Groundwater is the water that is present below ground in saturated soil or rock materials. Groundwater "recharge" occurs when water (e.g., from rain) infiltrates through the soil and enters the groundwater reservoir. When groundwater is pumped and extracted from the ground, it may be used for domestic, irrigation, and industrial purposes; consequently the quantity and quality of local groundwater are important water resource issues. The Project Site is located over the Chino Groundwater Basin, one of the largest groundwater basins in Southern California with approximately 5 million acre-feet of water in the underground basin and an unused storage capacity of approximately 1 million acre-feet. The Chino Basin occupies approximately 235 square miles in the Upper Santa Ana River watershed. The SARWQCB recently adopted a Basin Plan Amendment that redefined the Chino Groundwater Sub-basin boundaries and identified four management zones, including the Prado Basin Management Zone for regulatory purposes (Attachment to Resolution No. R8-2004-001). This Basin Plan Amendment also revised water quality objectives for nitrogen and total dissolved solids (TDS) for each management zone. For current regulatory purposes, the Project Site is located within the Chino II Groundwater Sub-basin. Groundwater in this zone predominantly flows in a southerly direction. Groundwater recharge occurs through direct percolation of precipitation, irrigation returns, and subsurface inflows. Extraction primarily occurs through groundwater extraction and subsurface discharge into the SAR.

Groundwater Quality

Dairies within the NMC and the rest of the Chino Basin generate large amounts of manure, urine, and other organic materials, which contribute to excess salts and nutrient loading, specifically TDS (primarily magnesium and calcium) and nitrates. Groundwater quality in the lower Chino Basin has deteriorated over time. Groundwater in portions of the Chino Basin exceeds Environmental Protection Agency (EPA) drinking water standards for nitrates and TDS, and exceeds water quality objectives listed in the SARWQCB Basin Plan for these constituents. In particular, the Chino Groundwater Basin south of SR60 has elevated concentrations of TDS and nitrates. Seventy-two percent (72%) of the private wells south of the 60 Freeway had TDS concentrations above the secondary maximum contaminant level (MCL).

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Approximately 83 percent of the private wells south of the 60 Freeway had nitrate concentrations greater than the MCL (Wildermuth Environmental Inc. 2006).

High nitrate concentrations in waters used for drinking can be toxic to human life, and infants are particularly at risk and can develop “blue baby syndrome” (California Regional Water Quality Control Board 1995). The drinking water standard for nitrate (as NO₃) has been set at 45 mg/L. High TDS (salts) in drinking water has poor taste, and in irrigation water can negatively impact plant growth. Irrigation waters should not have a TDS concentration above 700 mg/L.

Currently, approximately 9,200 acre-feet per year of Chino Basin groundwater containing elevated concentrations of nitrate and TDS are treated by reverse osmosis to remove salts by the Chino I Desalter, operated by the Chino Desalter Authority (CDA). A second desalter (Chino II Desalter) is currently under construction and is expected to be completed in 2006. Groundwater treatment yields potable water that is a viable water supply source for use in developing communities; consequently groundwater treatment has been identified in the Optimum Basin Management Program (OBMP) as an important management strategy for the Chino Basin. The OBMP is discussed in Section 5.8.5 of this EIR.

There are three toxic plumes in the vicinity of the NMC (Envicom 1998), the Airport Plume, the GE Plume, and the Kaiser Plume. These plumes of contaminated groundwater generally flow southwesterly and drinking water is not normally pumped from within these plumes. The City monitors water quality from its wells on a regular basis and is prepared to take appropriate action, such as discontinuing using a well or blending well water with imported water, if the water quality begins to approach the limits established by State and Federal drinking water standards (Envicom 1998).

Groundwater Supply

According to the NMC General Plan, the City has adjudicated pumping rights of 12,338.7 acre-feet per year, of which 967.4 acre-feet per year are from a 1995 land use transfer, in the Chino Groundwater Basin. The State has a portion of the adjudicated pumping rights in this basin as does an agricultural area of approximately 317,700 acres. The pumping rights associated with the agricultural area are known as the “agricultural pool water rights.” As property is removed from agricultural uses, the water rights associated with such property is transferred to the new water provider at a rate of 2.0 acre-feet per year per acre. In addition to receiving transferred water rights from the agricultural pool, the City also receives a portion of excess agricultural pool water if any remains after the State agricultural users and the agricultural land conversion water allocations have been satisfied (Maurizio 2006). In fiscal year 2005-2006, 75.57 acres of agricultural land was removed from agricultural uses and the City received approximately 151 acre-feet of water from the excess agricultural pool.

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Domestic Water Quality

The City's domestic water supply comes from local groundwater and imported water purchased from the Metropolitan Water District of Southern California (MWD) and the Inland Empire Utilities Agency (IEUA). Water pumped from the City's 21 wells is disinfected and delivered to the City's retail customers. Local groundwater constitutes 85% of the City's domestic water supply. Approximately 15% of the City's domestic water supply is imported surface water, which comes from the Sacramento/San Joaquin Bay-Delta through the State Water Project (SWP) prior to being treated and entering the City's domestic water system.

The City's 2004 and 2005 Water Quality Reports indicates that both local groundwater and imported water are below established MCLs for all major constituents required to be monitored.

Drainage Facilities

Agriculture is the dominant land use within the NMC East area, thus the majority of the area consists of pervious surfaces and does not result in high volumes of surface runoff as normal amounts of rainfall will percolate. Historically the NMC consisted of small to medium dairy operations approximately 20 to 40 acres in size. The rural setting consists mainly of two lane roads with road side drainage ditches to convey storm water runoff. There are two regional flood control facilities in the NMC East area – the Cucamonga Creek Channel and the Bellegrave County Line Channel.

Cucamonga Creek Channel

The Cucamonga Creek Channel is a regional flood control facility that bisects the NMC and the Project Site in a north/south direction. This rectangular concrete lined channel accepts and conveys regional drainage from portions of Ontario and Rancho Cucamonga ultimately discharging into the Prado Dam Basin (Stantec 2006).

The Cucamonga Creek Channel was constructed approximately 20 years ago by the Army Corps of Engineers to serve as a primary drainage facility for the City. One of the original purposes of the channel was to accept emergency flows from the Day Creek Channel. Regional drainage facilities constructed in the past 20 years have eliminated the need for the Cucamonga Creek Channel to accept emergency flows, thus this drainage facility has adequate capacity to serve drainage generated by the NMC at build-out.

Bellegrave County Line Channel

The Bellegrave County Line Channel is located along the San Bernardino and Riverside County boundaries. The Bellegrave County Line Channel accepts runoff from NMC East and ultimately joins the Cucamonga Creek Channel west of Archibald Avenue. NMC East is the major tributary watershed for this

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channel and is integrated into the drainage system through a series of connections at north/south arterial streets in the Project vicinity (Stantec 2006).

Flooding

NMC East is not within a 100-year flood plain as shown on Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (Stantec 2006).

Groundwater Elevations

Regional groundwater elevations in the portion of the Chino Groundwater Basin within the NMC range from approximately 530-590 feet above mean sea level as monitored in 1991 (Envicom 1997), Fall 2000 (Wildermuth Environmental, Inc. 2005, Figure 3-7), and Fall 2003 (Wildermuth Environmental, Inc. 2005, Figure 3-6).

Project Site Conditions

The Project Site is located on gently sloping (approximately one percent) undeveloped terrain which has a relatively uniform slope that trends southerly away from Schaefer Avenue as shown in Figure 5.6-2 Existing Topography. The Project Site had been disturbed by agricultural uses, the Cucamonga Creek Channel, and SCE facilities including a substation, utility easement, and distribution and 66 kilovolt (Kv) transmission lines as shown in Figures 3-3 and 3-16. For purposes of receiving domestic water service, the Project Site is within the Francis Street Pressure Zone (Albert A. Webb Associates 2004, Figure 5).

Groundwater Resources

Groundwater quality in the vicinity of the Project Site is expected to exhibit the same characteristics as previously discussed for regional groundwater characteristics, including high concentrations of nitrates and total dissolved solids. The Geotechnical Reports (Appendix F) indicate that groundwater in the Project Site is likely to be found at depths greater than 125 feet below ground level.

Surface Water Quality

Manure contains a very high organic content, generally greater than 10 percent by weight and includes pure manure or soil mixed with substantial amounts of manure. Manure stockpiling resulting from ongoing dairy operations occurs on various locations of the Project Site. Storm water generated on the Project Site, like other area dairy operations, would likely be contaminated with manure, urine, and other organic materials.

Drainage Facilities

The Project Site, as much of the NMC, is currently in agricultural use; thus only a small portion consists of impervious surfaces. Normal rainfall to the area is able to percolate through onsite soils and does not result in high volumes of surface runoff, as typically associated with urban areas. During heavy rainfall

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when ground surfaces are saturated, surface runoff is collected in the existing drainage ditches and retention basins located within the Site. Offsite flows are directed into the existing storm drain system surrounding the Project Site, which is generally unimproved and consists primarily of open earthen swales along area roadways or curbed roadway surfaces.

The Cucamonga Creek Channel bisects the Site but does not collect offsite flows from the Project Site. As previously discussed, the Cucamonga Creek Channel is a major flood control facility that conveys water from much of the urbanized area located to the north of the Project Site, through the Site and then to the Prado Basin in the south. Existing storm drain facilities are shown on Figure 3-14.

5.8.2 Issues Identified During Public Scoping Meeting

During the public scoping meeting questions were raised or comments made regarding: (i) the use of reclaimed water for landscaping, (ii) separate meters for houses and landscaping, (iii) using non-potable water during construction, and (iv) the quantity of non-potable water use in the Project. A comment was made regarding the adequacy of flood control facilities.

5.8.3 Issues Identified in NOP and Amended NOP Comment Letters

The California Regional Water Quality Control Board, Santa Ana Region (RWCB) responded to the NOP and recommends the EIR include a hydrologic report or study that addresses infrastructure needs, and the potential downstream impacts of the Project. The RWCB also requests the EIR address potential impacts to beneficial uses of any impacted waters. The comment letter identifies specific water quality requirements that should be addressed in the EIR discussion.

The Riverside County Flood Control and Water Conservation District responded to the NOP and Amended NOP requesting the EIR include an evaluation of any potential changes to downstream drainage patterns that are tributary to Riverside County.

5.8.4 Thresholds of Significance

According to Appendix G of the State CEQA Guidelines and the City's Initial Study Checklist, a project has the potential to result in a significant effect on the environment if it would:

- Violate any water quality standards or waste discharge requirements;

- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted);
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or offsite;
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner, which would result in flooding on- or offsite;
- Create or contribute runoff water, which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff;
- Otherwise substantially degrade water quality;
- Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map;
- Place within a 100-year flood hazard area structures, which would impede or redirect flood flows;
- Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam; or
- Inundate the project site by seiche, tsunami, or mudflow.

5.8.5 Project Compliance with Existing Water Quality Regulations

This section presents a discussion of the regulatory framework for the Project, applicable water quality programs, and master plans.

Regulatory Framework

Porter-Cologne Water Control Act and the Basin Plan

California's (Section 13000 et seq., of the California Water Code), which established both the State Water Resources Control Board and the present system of nine Regional Water Quality Control Boards, directs each Regional Board to formulate and adopt water quality control plans ("Regional Water Quality Control

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Plans") that set forth water quality objectives to insure the reasonable protection of beneficial uses and the prevention of nuisance (Porter-Cologne Water Quality Control Act, Chapter 4, Article 3). The SARWQCB adopted the *Water Quality Control Plan, Santa Ana River Basin* (8), also known as the "Basin Plan," on March 11, 1994. The Basin Plan was prepared and adopted with the "understanding that water quality can be changed somewhat without unreasonably affecting beneficial uses" (California Regional Water Quality Control Board 1995, pg. 1-2).

Beneficial Uses

The proposed Project will contribute storm and nuisance runoff water to the Cucamonga Creek Channel which will flow into the Bellegrave County Line Channel, Mill Creek, and the Santa Ana River/Prado Basin. In addition, the project overlies the Chino II sub-basin of the larger Chino Groundwater Basin. As stated in the Water Quality Management Plan of the Santa Ana River Basin (Basin Plan), each of these Reaches and the Chino II Sub-basin have numeric and/or narrative water quality objectives that are required to be met by the SARWQCB. In addition, each Reach identified in the Basin Plan and the Chino II Sub-basin have beneficial uses assigned to them as summarized in Table 5.8-1. Beneficial uses are threatened or lost when the water quality objectives are violated.

Table 5.8-1 Beneficial Uses for Surface Waters and Groundwater

Water Body	Beneficial Uses
SAR Reach 3	AGR, GWR, REC1, REC2, WARM, WILD, RARE
Cucamonga Creek Reach 1	GWR, REC1, REC2, LWRM, WILD
Mill Creek	REC1, REC2, WARM, WILD, RARE
Prado Basin Wetlands	REC1, REC2, WARM, WILD, RARE
Chino II Groundwater Sub-basin	MUN, AGR, IND, PROC

Description of Beneficial Uses

AGR	Waters are used for farming, horticulture or ranching. Uses may include, but are not limited to, irrigation, stock watering, and support of vegetation for range grazing.
GWR	Groundwater recharge waters, used for natural or artificial recharge of groundwater for purposes that may include future extraction, maintaining water quality, or halting saltwater intrusion in freshwater aquifers.
MUN	Waters used for community, military, municipal or individual water supply systems. Uses may also include drinking water supply.
IND	Waters for industrial service supply. These uses do not depend primarily upon water quality, and may include mining, cooling water supply, hydraulic conveyance, gravel washing, fire protection, and oil well repressurization.

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<u>Description of Beneficial Uses (continued)</u>	
PROC	Waters for industrial process supply. Uses are for industrial activities that are dependent upon water quality. Uses may include process water supply and all uses of water related to product manufacture or food preparation.
REC1	Water contact recreation waters, used for recreational activities involving body contact with water where ingestion of water is reasonably possible. Uses may include swimming, wading, water-skiing, skin and scuba diving, surfing, whitewater activities, fishing, and use of natural hot springs.
REC2	Non-contact water recreation waters, used for recreational activities involving proximity to water, but not normally involving body contact with water where ingestion of water would be reasonably possible. These uses may include picnicking, sunbathing, hiking, beachcombing, camping, boating, sightseeing, and aesthetic enjoyment in conjunction of the above activities.
WARM	Warm freshwater habitat waters support warm water ecosystems that may include preservation and enhancement of aquatic habitats, vegetation, fish and wildlife, including invertebrates.
LWRM	Limited warm freshwater habitat waters support warm water ecosystems which are severely limited in diversity and abundance as the result of concrete-lined watercourses and low, shallow dry weather flows which result in extreme temperature, pH and/or dissolved oxygen conditions.
WILD	Wildlife habitat waters support wildlife habitats that may include the preservation and enhancement of vegetation and prey species used by waterfowl and other wildlife.
RARE	Rare, threatened or endangered species waters support habitats necessary for the survival and successful maintenance of plant or animal species designated under the state or federal law as rare, threatened or endangered.
Source: <i>Water Quality Control Plan, Santa Ana River Basin (8)</i> , Chapter 3	

In addition to identifying beneficial uses, the Basin Plan also establishes water quality objectives that are “sufficiently stringent to protect the most demanding use” (California Regional Water Quality Control Board 1995, pg. 3-3).

Water Quality Objectives

The Introduction to Chapter 4 of the Basin Plan states:

The Porter-Cologne Act defines water quality objectives as “...the limits or levels of water quality constituents or characteristics which are established for the reasonable protection of beneficial uses of water or the prevention of nuisance within a specific area” (§13050(h)). Further, the Act directs (§13241) that:

Each regional board shall establish such water quality objectives in water quality control plans as in its judgment will ensure the reasonable protection of beneficial uses and the prevention of nuisance; however, it is recognized that it may be possible for the quality of

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water to be changed to some degree without unreasonably affecting beneficial uses.

Factors to be considered by a regional board in establishing water quality objectives shall include, but not necessarily be limited to, all of the following:

- (a) *Past, present, and probable future beneficial uses of water.*
- (b) *Environmental characteristics of the hydrographic unit under consideration, including the quality of water available thereto.*
- (c) *Water quality conditions that could reasonably be achieved through the coordinated control of all factors which affect water quality in the area.*
- (d) *Economic considerations.*
- (e) *The need for developing housing within the region.*
- (f) *The need to develop and use recycled water.*

The Basin Plan includes two types of water quality objectives, “narrative” and numeric. Tables 5.8-2 and 5.8-3 summarize these objectives for the water bodies into which the Project Site will drain.

Table 5.8-2 Applicable Narrative Water Quality Objectives for Inland Surface Waters

Constituent	Objective
Bacteria, Coliform REC-1	Fecal coliform: log mean less than 200 organisms/100 mL based on five or more samples/30-day period, and not more than 10% of the samples exceed 400 organisms/100 mL for any 30-day period
Bacteria, <i>E. Coli</i> REC-1	<i>E. Coli</i> : log means less than 136 organisms/100 mL based on five or more samples / 30-day period, and not more than 10% of samples exceed 235 organisms/100 mL for any 30-day period.
Bacteria, Coliform REC-2	Fecal coliform: average less than 2000 organisms/100 mL and not more than 10% of the samples exceed 4000 organisms/100 mL for any 30-day period
Oil and Grease	Waste discharges shall not result in deposition of oil, grease, wax or other materials in concentrations which result in a visible film or in coating objects in the water, or which cause a nuisance or adversely affect beneficial uses.
Solids, Suspended and Settleable	Inland surface waters shall not contain suspended or settleable solids in amounts which cause a nuisance or adversely affect beneficial uses as a result of controllable water quality factors.

Source: *Water Quality Control Plan, Santa Ana River Basin (8)*, Pgs. 4-6, 4-9, 4-10 and Resolution No. RS-2006-001

Table 5.8-3 Numeric Water Quality Objectives

Water Body	Water Quality Objectives (mg/L)						
SAR Reach 3	TDS	Hardness	Na	Cl	TIN	SO ₄	COD
	700	350	110	140	10	150	30
Cucamonga Creek Reach 1	Numeric Water Quality Objectives have not been established, narrative objectives apply.						
Mill Creek	Numeric Water Quality Objectives have not been established, narrative objectives apply.						
Prado Flood Control Basin	Numeric Water Quality Objectives have not been established, narrative objectives apply.						
Chino II Groundwater Sub-basin	TDS	Hardness	Na	Cl	TIN	SO ₄	
	330	185	18	18	6	20	

Legend and Explanation of Pollutants

TDS: Total dissolved solids. TDS affects the taste of water. The Department of Health Services recommends the concentration of TDS in drinking water be limited to 1,000 mg/L. Quality-related consumer cost analyses have indicated that a benefit to consumers exists if water is supplied with TDS at or below 500 mg/L.

Hardness: Concentration of calcium carbonate (CaCO_3) present in the water. Hard water requires use of greater quantity of soap to produce foam of lather and results in scale buildup in utensils and plumbing.

Na: Sodium. The presence of sodium in drinking water maybe harmful to persons suffering from cardiac, renal, and circulatory disease as well as affecting the taste of water. Due to the cumulative effects of excess concentrations of sodium in irrigation water, soil permeability to water and air may be reduced.

Cl: Chloride, when present in excess concentrations, results in economic damage rather than public health hazards. Excess chlorides affect the taste of drinking water.

TIN: Total inorganic nitrogen.

SO₄: Sulfate. Excessive sulfate, particularly magnesium sulfate (MgSO_4), in drinking water may temporarily result in a mild laxative effect.

Source: *Water Quality Control Plan, Santa Ana River Basin (8)*, pages 4-7 through 4-11, Table 4-1

Clean Water Act

The 1972 amendments to the Clean Water Act (CWA) prohibit the discharge of pollutants to navigable waters from a point source (a discharge from a single conveyance such as a pipe) unless the discharge is authorized by a National Pollutant Discharge Elimination System (NPDES) permit. In 1987, in recognition that diffuse, or nonpoint, sources were significantly impairing surface water quality, Congress amended the CWA to address nonpoint source storm water runoff pollution in a phased program requiring NPDES permits for operators of municipal separate storm sewer systems (MS4s), construction projects, and industrial facilities. The purpose of the NPDES program is to establish a comprehensive storm water quality program to manage urban storm water and minimize pollution of the environment to the maximum extent practicable (MEP). The NPDES program consists of:

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- Characterizing receiving water quality
- Identifying harmful constituents
- Targeting potential sources of pollutants
- Implementing a Comprehensive Storm Water Management Program (CSWMP).

Three NPDES permits exist within the region of the Project Site, a State-wide permit, an area-wide permit, and a confined animal feeding operation permit as discussed below

State-Wide Construction Storm Water Runoff Permit

NPDES Permit No. CAS000002 (Waste Discharge Requirement Order No. 99-08-DWQ) is a State-wide permit issued by the SWRCB in August 1999. This permit covers construction activities on development projects. These regulations prohibit the discharge of storm water from construction projects that include 5 acres or more of soil disturbance, unless the discharge is in compliance with the NPDES Phase 1 General Permit. Construction activities subject to this permit include clearing, grading, and other disturbance to the ground, such as stockpiling, or excavation that results in soil disturbance of at least 5 acres of total land area. In addition, as required by NPDES, because construction on the Project Site would occur over an area greater than 1 acre, the developer would be required to submit a Notice of Intent (NOI) to the SWRCB for coverage under the permit and would be required to comply with all its requirements.

The main compliance requirement of the NPDES permits is the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP). The purpose of a SWPPP is to identify potential onsite pollutants, identify and implement appropriate storm water pollution prevention measures to reduce or eliminate discharge of pollutants to surface water from storm water and non-storm water discharges. Storm water best management practices (BMPs) to be implemented during construction and grading, as well as post-construction BMPs, will be outlined in the SWPPP (or SWPPPs) prepared for the Project. The Project proponent for the individual Planning Areas will be required to obtain coverage under the General NPDES Permit for construction activities prior to site disturbance, and will need to meet San Bernardino County's requirements for new development that are specified in its Water Quality Management Plan (WQMP). Examples of construction BMPs include: detention basins for capture and containment of sediments, use of silt fencing, sandbags, gravel bags, or straw bales to control runoff and identification of emergency procedures in case of hazardous materials spills.

Area-Wide Urban Storm Water Runoff Permit

NPDES Permit No. CAS618036 (Waste Discharge Requirement Order No. R8-2002-0012) was issued in April 2002 by the Santa Ana Regional Water Quality Control Board (SARWCB) for San Bernardino

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County and the incorporated cities therein. The San Bernardino County Flood Control District is the principal permittee and the City is a co-permittee under this permit. This permit is also known as the San Bernardino Municipal Separate Storm Sewer System or "MS4" permit. The San Bernardino County WQMP was developed to implement compliance with this permit. Pursuant to this MS4 permit, the Project will be required to prepare project specific Storm Water Quality Management Plans (SWQMPs) that assures the following Best Management Practices (BMPs) are implemented:

2.5.1 Site Design BMPs

All projects shall implement Site Design BMPs to minimize any adverse storm water-related impacts. Projects for which hydrologic conditions of concern have been identified shall control post-development peak storm water runoff discharge rates and velocities to protect stream habitat and to prevent downstream erosion and sedimentation. Projects can address these objectives by the incorporation of appropriate Site Design BMPs intended to create a project that mimics the predevelopment hydrologic regime. Mimicking a site's predevelopment hydrologic regime may be achieved in all or part by:

- Reducing imperviousness, conserving natural resources and areas, maintaining and using natural drainage courses in the municipal storm drain system, and minimizing clearing and grading.
- Providing runoff storage measures dispersed strategically throughout a site, often accomplished by incorporating a variety of detention and retention facilities into the site's landscaped areas.
- Implementing onsite hydrological functional landscape design and management practices.

2.5.2 Source Control BMPs

Source Control BMPs (routine non-structural BMPs, routine structural BMPs, alternate materials, and BMPs for individual project categories/project features) are required for all projects unless they are not applicable to the project due to project characteristics. If any of the following Source Control BMPs are not included in the project, a justification must be provided in the project WQMP:

- Routine Non-Structural BMPs:
 - ❖ Education for Property Owners, Tenants, and Occupants
 - ❖ Activity Restrictions
 - ❖ Spill Contingency Plan
 - ❖ Employee Training/Education Program
 - ❖ Street Sweeping Private Streets and Parking Lots
 - ❖ Common Area Catch Basin Inspection
- Routine Structural BMPs:
 - ❖ Landscape Planning

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- ❖ *Hillside Landscaping*
 - ❖ *Roof Runoff Controls*
 - ❖ *Efficient Irrigation*
 - ❖ *Protect Slopes and Channels (OC 2003)*

2.5.3 Treatment Control BMPs

Minimizing a development's adverse effects on water quality can be most effectively achieved using a combination of Site Design, Source Control and/or Treatment Control BMPs. Where projects have been designed to eliminate or reduce the introduction of expected pollutants of concern into runoff from the project site through the implementation of Site Design and Source Control BMPs, the development may still have the potential for pollutants of concern to enter the MS4 or receiving waters. If all pollutants of concern are not adequately addressed by Site Design and Source Control BMPs, Treatment Control BMPs are required. Project WQMPs must be designed to minimize or eliminate pollutants in discharges from the project to achieve the appropriate standard, as specified in the Permit.

Where required, Treatment Control BMPs must be implemented unless equivalent treatment is provided as specified in Section 2.5.4 of the WQMP. Treatment Control BMPs must be selected to address the identified pollutants and hydrologic conditions of concern. Treatment control BMPs must be designed to treat the storm water quality flow or the storm water quality volume from a development, and must be located to treat the required runoff volume or flow prior to discharging to any receiving water. Treatment control BMPs may also be provided offsite or through a regional-based BMP.

Preparation of the Project specific SWQMP that incorporates the appropriate BMPs and adherence to such BMPs will result in no adverse effects to the beneficial uses of the surface waters in the vicinity of the Project Site.

Confined Animal Feeding Operation Permit

NPDES Permit No. CAGO18001 (Waste Discharge Requirement Order No. 99-11) was issued by the SARWQCB in August 1999 for dairy operations within the jurisdiction of the SARWQCB. This permit is intended to regulate dairy wash water, offsite storm water runoff, and land application rates of manure for the purpose of controlling wastes, such as bacteria, ammonia, nitrates, phosphorous, and salts generated at these facilities. Dairy operations within the Project Site are subject to the terms of this permit.

City of Ontario Municipal Code

In order to ensure that construction sites implement the appropriate pollution control measures, the City's Municipal Code identifies generally permitted activities under the Statewide General Permit (WQ Order 99-08-DWQ). Discharges of non-storm water from construction activities are generally prohibited except for those discharges listed in Section 6-6.207 of the City's Municipal Code or any discharges authorized by the City Engineer or the SARWQCB. The City and the SARWQCB will allow the discharge of certain

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non-storm water discharges from construction sites provided that they are in compliance with the discharge limitations specified in the current General Waste Discharge Requirements for De Minimus Discharges issued by the SARWQCB.

The following discharges are authorized provided they are in compliance with the permit:

- (1) Construction dewatering wastes
- (2) Wastes associated with well installation, development, test pumping and purging
- (3) Aquifer testing wastes
- (4) Dewatering wastes from subterranean seepage, except for discharges from utility company vaults
- (5) Discharges resulting from hydrostatic testing of vessels, pipelines, tanks, etc.
- (6) Discharges resulting from the maintenance of potable water supply pipelines, tanks, reservoirs, etc.
- (7) Discharges resulting from the disinfection of potable water supply pipelines, tanks, reservoirs, etc.
- (8) Discharges from potable water supply systems resulting from system failures, pressure releases, etc.
- (9) Discharges from fire hydrant testing or flushing.

Authorized non-storm water discharges under Section 6-6.503 of the City's Municipal Code shall be reported to the City Engineer at least five (5) days prior to a planned discharge. Unplanned discharges of non-storm water into the City's storm drainage system shall be reported as soon as possible and before any discharge is initiated. The City's Engineering Department, Environmental Section will provide a "Non-Storm Water Discharge Notification Form" for any developer that is proposing to discharge any non-storm water from a construction site. The Non-Storm Water Discharge Notification Form must be submitted to the Engineering Department, Environmental Section, for these discharges, at least five (5) days prior to any planned discharge or as soon as possible for any unplanned discharge. Monitoring may also be required for these discharges. If the City provided form is not utilized, a report shall be submitted prior to discharge which includes the following information:

- (1) Type of proposed discharge
- (2) Estimated average and maximum daily flow rate
- (3) Frequency and duration of discharge
- (4) A description of the proposed treatment system (if appropriate)

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(5) A description of the path from the point of discharge to the nearest storm drain inlet. All discharges shall be monitored daily for flow volume and shall be recorded in a daily log by the person responsible for the discharge. Discharges shall also be sampled during the first thirty (30) minutes of each discharge and weekly thereafter for continuous discharges for chlorine and total suspended solids. Monitoring data for flow, chlorine and suspended solids and any other required constituents shall be reported to the City's Engineering Department, Environmental section on a weekly basis.

The Municipal Code also stipulates penalties for violating the requirements of the General Permit including monetary fines and other measures, as deemed necessary by the City Engineer.

The Project shall also comply with City Ordinance 2689 (Recycled Water Use) and make use of recycled water for all approved uses, including but not limited to irrigation of parks, schools, street landscaping, recreational trails, HOA maintained onsite common areas and commercial/industrial landscaping.

Recycled water is regulated by the SARWQCB and permission to use recycled water is based on IEUA's ability to adequately treat domestic waste to the point that the recycled water (effluent) meets the water quality requirements of Title 22, Chapter 3 of the California Code of Regulations. The Project shall also comply with regulations relating to cross-connections (Title 17 of the California Code of Regulations) and Guidelines for Distribution of Non-potable Water as published by the California-Nevada Section of the American Water Works Association.

Water Quality Programs

Two water programs related to hydrology and water quality exist within the region of the Project Site – a Recycled Water Program and the Optimum Basin Management Program. These programs are summarized in the following paragraphs.

Inland Empire Utilities Agency Recycled Water Program.

IEUA currently produces approximately 67,000 acre-feet per year (AFY) of excellent quality tertiary treated recycled water. Pursuant to the 1969 Orange County Judgment, 17,000 AFY is discharged to the SAR, which leaves 50,000 AFY available for use by IEUA's wholesale customers. Recycled Water Program Goals for 2020 project production of 127,00 AFY, which results in approximately 110,000 net AFY available for IEUA's wholesale customers. Recycled water is presently being used in the City at Westwind Park, Whispering Lakes Golf Course, and landscaping on the Pomona Freeway right-of-way (Inland Empire Utilities Agency 2006).

The plans for IEUA's Regional Recycled Water Distribution System includes over 50 projects which include separate pipelines, pump stations, and storage reservoirs for recycled water. These projects are

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grouped into five implementation phases, which are scheduled in two-year increments. By 2010, when all five phases are operational, anticipated annual recycled water sales will be approximately 70,000 acre-feet per year. Forty-thousand (40,000) acre-feet per year will replace potable demands for use in green belt irrigation and industrial use applications, while 30,000 acre-feet per year will be used for groundwater replenishment consistent with the Regional Recharge Master Plan and Optimum Basin Management Program approved by the Chino Basin Watermaster and Superior Court.

Optimum Basin Management Program

The Chino Groundwater Basin (the Basin) is an adjudicated basin whereby water rights are administered by the Chino Basin Watermaster (CBW). The CBW is a consensus-based organization facilitating development and utilization of the Basin created in 1978 by a San Bernardino County Superior Court judgment (County Case No. RCV 51010). Preparation of the Optimum Basin Management Program (OBMP) began in 1998 as required by the judgment. The objective of the OBMP is to formulate and implement a groundwater management program that will preserve and enhance the safe yield and the water quality of the Chino Basin.

The OBMP consists of nine Program Elements intended to enhance water supplies, protect and enhance water quality, and enhance management of the Chino Basin. Three OBMP components relate to water quality:

Program Element No. 1 - Comprehensive Monitoring of the Basin

This element includes a groundwater quality-monitoring program, a surface water discharge and quality-monitoring program, and a program related to domestic water well construction, abandonment, and destruction monitoring.

Program Element No. 6 - Cooperative Programs

This element relates to development of cooperative programs with the Santa Ana Regional Water Quality Control Board and other agencies with respect to verifying the OBMP will improve groundwater quality.

Program Element No. 7 - Salt Management Programs

This element relates to minimizing total dissolved solids (TDS) and nitrogen, and desalting the groundwater.

Master Plans

Master Plan of Drainage for the New Model Colony

Following the preparation of the NMC Final EIR, the City, in cooperation with the San Bernardino County Flood Control District prepared the New Model Colony Master Plan of Drainage (NMC-MPD) to guide the development of storm drain systems to serve the entire NMC. The NMC-MPD included two alternatives

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for regional and secondary drainage facilities – Alternative 1 and Alternative 2. Alternative 1 is a traditional storm drain system that would intercept runoff from the NMC and convey the runoff to the Prado Flood Control Basin. Alternative 2 was designed to reduce the size and cost of downstream drainage facilities through the use of permanent detention basins throughout the NMC. Although the NMC-MPD recommended adopting Alternative 1, the NMC-MPD acknowledged that as specific plans are prepared and development proceeds within the NMC, alternate drainage facilities would likely be proposed.

To evaluate the potential impacts of implementing the Master Plan of Drainage, the City prepared an Initial Study/Mitigated Negative Declaration for water, wastewater, and drainage infrastructure plans (Infrastructure Plans IS/MND). The Infrastructure Plans IS/MND stated that with the implementation of mitigation measures identified in the NMC Final EIR, and the implementation of the NMC-MPD, flooding impacts within the NMC would be below the level of significance.

The Infrastructure Plans IS/MND further stated that separate environmental review would be conducted for individual development projects within the NMC, and the Infrastructure Plans IS/MND reflected the statements in the NMC Final EIR that development projects would be required to install interim storm water retention basins in advance of the completed NMC-programmed storm water system.

Development phasing in the NMC is dependent upon a number of factors, therefore phasing of the master drainage facilities will depend on the pattern of development within the NMC. The NMC-MPD anticipated that NMC Subareas and individual projects will be constructed prior to completion of the NMC-MPD downstream drainage facilities, with CEQA review being completed at the time of such individual project approvals and infrastructure development. Projects being constructed prior to the completion of downstream drainage facilities are required to construct interim facilities to attenuate storm flows to a level less than or equal to the level of flows prior to development of each project.

The Infrastructure Plans IS/MND also recommended a mitigation measure to ensure coordination between the City and adjacent jurisdictions for regional infrastructure improvements, such as the County Line Storm water Channel. Implementation of this mitigation measure would eliminate potentially significant impacts related to infrastructure.

The City is currently evaluating the construction of a regional storm water runoff treatment facility for the sub-watershed area that the Project Site is located within. At this time, the size and location of the regional treatment facility are unknown. The City is presuming that the facility will be located in close proximity to Mill Creek Channel out-fall area. This facility would serve the eastern portion of the NMC.

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Other treatment facilities could be developed in the western portion of the NMC. These facilities would be designed for expansion as development occurs. It is important to note adherence to the provisions of the MS4 permit provides adequate and appropriate treatment of storm water discharges, and that implementation of a regional treatment facility is not necessary to protect the beneficial uses of surface and groundwaters in the Project vicinity. Draft Master Plan of Drainage Update, New Model Colony (East)

As part of the refinement and updating of the original NMC-MPD, the NMC Builders, LLC, a consortium of builders within the easterly portion of the NMC, commissioned an update to the MPD prepared by L.D. King in October 2000. The NMC East area encompasses approximately 3,800 acres generally bounded by Vineyard Avenue on the west, Riverside Drive on the north, Milliken Avenue on the east, and the San Bernardino County/Riverside County line to the south. NMC East includes all of NMC Subareas 5, 6, 7, 12, 13, 18, 19, 23, 24, 25, 29, and 30; and those portions of Subareas 4, 11, 17, 22, and 28 located east of Vineyard Avenue. NMC General Plan Land uses within NMC East include residential (low, medium, and high density), commercial, industrial/business park, town center, schools, parks, and open space.

The Draft Master Plan of Drainage for NMC East was prepared to achieve the following objectives:

- Provide design guidelines for the final design of in-tract drainage facilities and back bone drainage infrastructure
- Describe proposed drainage infrastructure and hydraulic control structures
- Describe minimum flood control requirements and drainage facilities to provide flood protection of the NMC East Project vicinity and downstream adjacent properties

New Model Colony Master (Backbone) Storm Drain Improvements

Master Storm Drain Improvements to serve the NMC will require construction of a new network of storm drain lines within existing and proposed streets extending north from the Bellegrave County Line Drainage Facility (a County of Riverside facility) and east to west to join the existing Cucamonga Creek Channel (a County of San Bernardino facility). The NMC Backbone Storm Drain Improvements, in the vicinity of the Project Site, which are shown in Figure 3-14 and described below, were sized based on the NMC East Draft Master Plan of Drainage.

- An 84-inch storm drain in Haven Avenue that fronts the easterly edge of the Project Site extending south to a 96-inch storm drain that joins the Bellegrave County Line Drainage Facility
- A 66-inch storm drain in Turner Avenue through the Project Site to a 78-inch, 80-inch, and 96-inch line as it extends south and joins the Bellegrave County Line Drainage Facility. The storm

drain in Turner Avenue will accept northerly offsite flows from a 60-inch line that serves the West Haven project

- A 36-inch storm drain in Archibald Avenue from Schaefer Avenue to a 48-inch line at The Avenue that extends south to a line increasing in size from 72-inch to 78-inch to 90-inch to a 96-inch line that joins the Bellegrave County Line Drainage Facility
- A 36-inch line in Schaefer Avenue that drains west into the 36-inch line in Archibald Avenue
- A 24-inch line in Schaefer Avenue that drains west into the storm drain in Hellman Avenue
- A 24-inch line in Hellman Avenue to a 48-inch line southerly through the Project Site that joins a 72-inch line in Edison Avenue from the west and a 24-inch line in Edison from the east, then extends south as a 96-inch line to (the future) Merrill Street then east to a 6-foot by 11-foot box culvert to the existing Cucamonga Creek Channel
- A 60-inch storm drain in Edison Street commencing at Vineyard Avenue continuing east to a 72-inch, 24-inch 48-inch, 42-inch, 24-inch, and 54-inch line storm drains

5.8.6 Project Design Considerations

The Avenue Specific Plan Storm Drain Master Plan

According to The Avenue Specific Plan Storm Drain Master Plan (Figure 3-14), all storm water from the Project Site will drain south, through NMC Backbone Storm Drain Facilities (discussed in Section 5.8.5) and the Cucamonga Creek Channel into the existing Bellegrave County Line Drainage Facility. Project specific storm drain facilities to be constructed as part of the Project, include:

- A 30-inch line on the east end of the Project Site in Carpenter Avenue extending north of Edison Avenue to mid-block between Edison and Schaefer Avenues
- A 36-inch line parallel to the east side of the Cucamonga Creek Channel, which will serve the Park/Elementary school sites in Planning Area 5 continuing north to serve the future retail site immediately south of Schaefer in Planning Area 4
- A 30-inch line in "A" street, between Archibald and Turner Avenues, that extends north to the intersection of "A" Street and The Avenue
- A 30-inch line in The Avenue that extends east from the intersection of "A" Street and The Avenue to the Middle School site in Planning Areas 6B and 9B;

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- Individual planning areas within the Project, will have 18-inch (minimum) laterals that drain to the NMC Master (Backbone) Storm Drain Improvements and The Avenue Specific Plan Storm Drain Master Plan facilities discussed hereinbefore

Ultimate development per The Avenue Specific Plan will require construction of all proposed NMC Master Storm Drain Improvements. Since individual Planning Areas are expected to be graded and built prior to completion of NMC Master Storm Drain Improvements, Interim Runoff Temporary Detention Basins (ITDBs) will be necessary if grading and construction of any Planning Area proceeds prior to the construction of NMC Master Storm Drain Improvements in the immediate vicinity of such Planning Area. As shown in Figure 3-14, The Avenue Specific Plan Storm Drain Master Plan proposes approximately 13 ITDBs generally located on the southerly side of each Planning Area. The ITDBs will function by detaining water onsite and letting it drain slowly. The slow drainage of storm water out of the ITDBs will reduce the peak discharge rate associated with the Project to be less than or equal to the peak discharge rate for the existing, that is without Project, condition. Each ITDB will be sized to accept upstream undeveloped flow conditions in accordance with SWRCB requirements and will provide 100-year storm overflow spillway designs.

The ITDBs provide several benefits: sediment control during construction, detention of storm water assuming down stream facilities are not on-line and last but not least, treatment control for pollutants of concern in a developed condition. A typical ITDB will be an extended detention basin incorporating the following design considerations as summarized from the *California Stormwater BMP Handbook New Development and Redevelopment for Best Management Practice (BMP)* TC-22 (California Stormwater Quality Association 2003).

- Outlets placed to maximize the flowpath through the ITDB
- The ratio of flowpath length (L), where L is the distance from the inlet to the outlet as measured at the surface, to width (W), where W is defined as the average width of the basin, of at least 1.5:1 (L:W)
- Optimal basin depths from 2 to 5 feet
- Side slopes of 3:1 (horizontal: vertical) or flatter for grass stabilized slopes; slopes steeper than 3:1 must be stabilized with an appropriate slope stabilization practice
- Basins constructed to prevent possible contamination of groundwater
- Energy dissipation at the inlet to reduce resuspension of accumulated sediment

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- Outflow structure should have a trash rack or other acceptable means of preventing clogging at the entrance to the outflow pipes.
- Outflow structure sized to allow for complete drawdown of the water quality volume in 72 hours, no more than 50% of the water quality volume should drain from the facility within the first 24 hours
- Outflow structure fitted with a valve so that (i) discharge from the basin can be halted in case of an accidental spill in the watershed and (ii) the rate of discharge from the basin can be regulated
- Erosion protection at the outfall location
- Safety is provided either by fencing of the facility or by managing the contours of the basin to eliminate dropoffs and other hazards
- The primary spillway opening must not permit access by small children
- Outfall pipes above 48 inches in diameter should be fenced

Maintenance of the ITDBs and of the Project Specific, storm drain facilities will be funded by a community facilities district and/or homeowners association.

Onsite Treatment Facilities

In the event the regional water treatment wetlands facility is not complete by the time development within the Project takes place, the ITDBs will provide onsite treatment of storm water runoff generated by the Project. The ITDBs will detain water for some minimum time (e.g. 48 hours) to allow particles, sediments, and associated pollutants to settle. The ITDBs will provide treatment for sediment, nutrients, trash, metals, bacteria, oil and grease, and organic compounds. Maintenance of the onsite treatment facilities will be provided by a community facilities district and/or homeowners association.

Water Conservation Measures

The Avenue Specific Plan Design Guidelines include the following water conservation measures:

- Use of drip and/or bubbler irrigation where appropriate
- Use of moisture sensors and/or central control irrigation systems may be incorporated where appropriate and feasible
- Irrigation systems will be designed per City standards and irrigation systems and plans will be approved by the City

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Plant Material Guidelines

The plant list for The Avenue Specific Plan (contained in Table 5 on pages 6-38 through 6-43 of the Specific Plan document) includes species of trees, shrubs, vines, groundcovers, and turf grass, that are compatible with the climatic setting of the NMC. The plant list further identifies the locations within the Specific Plan, e.g. specific streets, entries, recreation center, sports park, or retail/commercial center, each plant type may be used. The Specific Plan recognizes that even though a plant may be considered as drought tolerant, the plant requires proper care, installation, watering and maintenance to maintain its optimum healthy condition and provides the following guidelines for installation and maintenance:

- *Degrees of Drought Tolerance/Water Conservation: There are degrees of drought tolerance with some plants able to withstand or go without water for a greater period of time than others. Water conserving plant material may not be drought tolerant but can thrive on low water amounts throughout the year once established*
- *Plant Installation Water Demand: Drought tolerant plants like other plants, require more watering during the initial installation period and for at least a three month maintenance period following to become established. Therefore, if drought tolerant plants are installed in the warmer months more supplemental water will be required until the plant is established*
- *Deep Watering Practices: Drought tolerant plants like most plants need the proper deep watering practices to encourage deep root system development. Drought tolerant plants with a shallow root system resulting from frequent light applications of water will not be drought tolerant.*
- *Warmer Months Water Application: Although a plant is labeled drought tolerant, that does not necessarily mean it can survive without summer water, the plant may have low water requirements. Depending upon the plant, drought tolerant plants will have a better appearance and health during the warmer months with infrequent deep watering*
- *Full Season Plant Water Requirements: After drought tolerant plants have grown a full season, the water application rate should be diminished and the drought tolerant plant allowed to survive on less water*
- *Maintenance: Drought tolerant and California native plants still need regular maintenance such as pruning, fertilizing, deep watering and checking for pests and diseases. (JZMK 2006, page 6-36)*

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5.8.7 Project Impacts

Implementation of the proposed Project would result in the development of the Project Site with the land uses identified in The Avenue Specific Plan in addition to the construction or installation of interim and permanent storm drain facilities per The Avenue Storm Drain Master Plan (as discussed below) and water facilities per The Avenue Domestic Water Master Plan and The Avenue Recycled Water Master Plan (as discussed in Section 5.10 of this EIR). The Williamson Act Contract cancellation component of the Project will likely speed up the discontinuation of dairy operations for those properties with active Williamson Act contracts, which will result in changes in the quantity and quality of surface water run-off. Discontinuing dairy operations will reduce the amount of storm water runoff and surface water contaminated with manure and other dairy wastes generated on the Project Site.

Impacts Related to the Violation of Water Quality Standards or Waste Discharge Requirements

The Project's domestic water will be provided by the City and the existing private wells located on the Project Site will be destroyed in accordance with Department of Health Services (DHS) standards as part of the development of The Avenue Specific Plan component of the Project. Water customers on the Project Site would receive domestic water with the same quality standards as the City's other domestic water customers. Therefore less than significant impacts relating to violation of drinking and domestic water quality standards would result from Project implementation.

Implementation of the Project will include the construction and installation of recycled water facilities per The Avenue Recycled Water Master Plan as shown in Figure 3-13. Recycled water will be used for irrigation of the Project's landscaping located in its edges, medians, intersection, parkways, and neighborhood parks. Thus implementation of the Project is consistent with and would not conflict with IEUA's Recycled Water Program.

Implementation of the Project would not conflict with OBMP Program Elements 1, 6, and 7, as the City is a participating entity in the implementation of the OBMP programs. Furthermore, all OBMP Program Elements are included in the WSA relative to the City's legal right to extract groundwater. Therefore the Project does not conflict with the OBMP. Refer to Section 5.16 (Utilities) of this EIR for a discussion of water supply and the WSA.

Existing dairy operations on the Project Site are covered under NPDES Permit No. CAGO18001 (Waste Discharge Requirement Order No. 99-11) issued by the SARWQB. As the Project Site is developed with

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uses per The Avenue Specific Plan, existing dairy operations will cease. As individual dairy operations cease, those portions of the Project Site are no longer subject to this permit.

Short-Term Construction Impacts

Activities associated with the construction phase of the proposed Project have the potential to release pollutants and silt offsite and into receiving Waters of the U.S. that could potentially impact water quality. Pollutants, in this instance, means any liquid, solid, or semi-solid substances that causes a nuisance or contributes to contamination or pollution of the City's storm water runoff, storm water drainage system, or the impairment or degradation of waters. Typical construction site pollutants may include: sealants and glues; paint fragments and stucco flakes; wood preservatives, oils, and lubricants; and fluids or particulates associated with vehicle maintenance; construction equipment washing, concrete pouring and clean-up; steam cleaning and sandblasting; and chemical degreasing.

Construction activities associated with the Project include land disturbing activities such as clearing and grading, which have the potential to increase the turbidity and sedimentation of offsite receiving waters, which include silt. Turbidity is a measure of light scattered due to particulates in the water. Silt is sedimentary materials consisting of very fine particles that are smaller than sand and larger than clay. Offsite transport of silt has the potential to affect water quality through increased turbidity. Introduction of these pollutants and sediments into offsite receiving waters has the potential to degrade water quality.

Prior to the issuance of a grading or construction permit, the City requires the preparation of a Storm Water Pollution Prevention Plan (SWPPP) pursuant to NPDES Permit No. CAS000002. The SWPPP will identify BMPs that, when properly implemented, will prevent construction-related pollutants from contacting storm water and onsite erosion from moving offsite into receiving waters.

The NPDES program is administered by the State Water Resources Control Board (SWRCB) through the individual California Regional Water Quality Control Boards (RWQCB). General Construction Activity Storm Water NPDES permits for storm water discharges are administered by the RWQCB. Construction activities subject to this General Permit include clearing, grading, and disturbances to the ground such as stockpiling, or excavation that results in soil disturbances. SWPPPs are required for operations under a construction NPDES permit. Construction related SWPPPs include both structural and non-structural BMPs to minimize impacts to water quality. Prior to issuance of a grading permit, individual Planning Areas will be required to demonstrate compliance with NPDES construction activity storm water permit requirements.

There are a number and variety of BMPs which may be used in connection with Project development to reduce water pollution sources on developed sites to the maximum extent feasible. These BMPs are

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designed to reduce the level of contaminants present at the drainage system discharge points to acceptable levels. Source reduction techniques have proven to be the most cost-effective ways of avoiding or reducing water pollution from urban runoff.

Examples of BMPs likely to be imposed by the City may include: equipment maintenance, collection of animal wastes, enclosure of certain activities to reduce exposure, recycling or waste disposal, cleaning of parking lots and streets, infiltration or exfiltration devices, oil and grease traps, and filtration through sand filters, vegetative filter strips, or grassy swales.

In addition to the preparation of a SWPPP as discussed above, a SWQMP is required for the proposed Project that would include BMPs for short-term construction and long-term operations of the Project. Both the SWPPP and the SWQMP would include site design BMPs, source-control BMPs, and treatment control BMPs selected from the California Stormwater Quality Association's (CASQA) Construction Handbook. The CSQA Construction Handbook categorizes BMPs into the following six categories:

- Erosion Control (EC), which includes items such as scheduling preservation of existing vegetation, mulching, hydroseeding, and velocity dissipation devices
- Sediment Control (SC), which includes items such as silt fences, sediment basins and traps, fiber rolls, street sweeping, and chemical treatment
- Wind Erosion Control (WE)
- Tracking Control (TR), which addresses construction entrances, exits, roadways, and tire washing
- Non-Storm Water Management (NS)
- Waste Management and Materials Pollution Control (WM)

Selection and use of BMPs from the CSQA Construction Handbook is consistent with Section 6-6.505 of the City's Municipal Code.

As discussed in Section 5.7 (Hazards and Hazardous Materials) of this EIR, the Phase 1 ESAs completed for the project identified asbestos and lead-based paint as potential environmental concerns for Planning Areas 1B, 2A, 3B, 5, 6A, 6B, 7, 8A, 9A, 9B, 9C, 9D, 10A, and 10B. There are also septic tanks present on the Project Site. Demolition of existing structures containing asbestos and lead-based paint and removal of septic facilities could potentially introduce pollutants into the environment which could subsequently be transported to receiving waters, if appropriate BMPs during construction are not implemented.

Construction and demolition activities within the Project Site will implement appropriate BMPs in

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compliance with the General Permit for Construction Activities, thus reducing construction-related impacts to a level below significance.

During construction, storm water runoff from the Project Site may migrate to waterbodies that are currently in violation of their water quality standards. The City's MS4 permit (Order No. 2002-0012) states that, "...discharges from permittee's activities into waters of the U.S. are prohibited unless the discharges are permitted by a NPDES permit..." Since the Project's developers and builders will obtain an NPDES storm water permit for construction activities and shall comply with the requirements of the permit, the Project is in compliance with the City's MS4 permit related to construction activities and any potential impacts will be less than significant.

Long-Term Operational Impacts

Implementation of the Project will result in all storm and nuisance water runoff being conveyed in streets and storm drain facilities as per The Avenue Specific Plan Storm Drain Master Plan (Figure 3-14), which is described in Section 5.8.6 and NMC Backbone Storm Drain Facilities, as discussed in Section 5.8.5 of this EIR, before ultimately discharging into the Cucamonga Creek Channel and Bellegrave County Line Channel which flow into Mill Creek and the Santa Ana River/Prado Basin.

As previously discussed, the SARWQCB sets water quality standards for all ground and surface waters within its region. Water quality standards are defined under the Clean Water Act to include the beneficial uses of specific water bodies, the levels of water quality that must be met and maintained to protect those uses (water quality objectives), and the State's anti-degradation policy. Water quality standards for all ground and surface waters overseen by the SA.

RWQCB are documented in the Basin Plan. Beneficial uses consist of all the various ways that water can be used for the benefit of people and/or wildlife. Eleven beneficial uses have been designated for surface water bodies and groundwater in the vicinity of the Project Site (Table 5.8-1). All listed water quality objectives governing water quality in inland surface waters were evaluated for potential impacts from development of the Project; however, only those narrative and numeric water quality objectives that are most likely to be relevant to the Project are listed in Table 5.8-2 and 5.8-3, respectively. Water quality standards are attained when designated beneficial uses are achieved and water quality objectives are being met.

Non-point source pollution that is associated with urban land use may be expected to increase following implementation of the Project and development of the surrounding areas. Pollutants such as oil and grease, heavy metals, sediment, fertilizers and pesticides can be expected to be present in surface water runoff once project development occurs. Without appropriate post-construction BMPs and/or mitigation

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measures incorporated into the Project, significant adverse impacts to water quality standards and a general degradation of water quality may be expected to occur.

Implementation of the Project may contribute to an improvement in Groundwater quality. Groundwater in the vicinity of the Project Site has high concentrations of both nitrate and TDS. Dairy operations have been identified as a primary source of these two pollutants in groundwater, and every re-use of water further results in an increase in TDS concentration (California Regional Water Quality Control Board 1995). Converting the existing dairy land uses to urban land use is anticipated to, over time result in an improvement to Groundwater quality with respect to nitrogen and TDS.

Based on the above analysis and information, Table 5.8-4, identifies the beneficial use, the potentially affected bodies of water and a discussion of the potentially significant impacts of the Project on each beneficial use.

Table 5.8-4 Potentially Significant Impact to the Beneficial Uses of Water of the Water Bodies in Vicinity of the Project Site

Beneficial Use	Receiving Waters	Potential Impacts
AGR	SAR Reach 3, Chino II Groundwater Sub-basin	The agricultural use of water will be eliminated on the Project Site once development is complete. Negative impacts associated with agricultural uses of water will be eliminated. No significant negative impact to SAR Reach 3 or Chino II Groundwater Sub-basin related to AGR will result from Project implementation.
GWR	SAR Reach 3, Cucamonga Creek Reach 1	The unregulated recharge of water on the Project Site through the agricultural land will be eliminated once development is complete. Negative impacts associated with agricultural uses of water will be eliminated. No significant negative impact to SAR Reach 3 or Cucamonga Creek Reach 1 related to GWR will result from Project implementation.
REC1	SAR Reach 3, Cucamonga Creek Reach 1, Mill Creek, Prado Basin Wetlands	Implementation of the Project is not expected to have any measurable impact to REC1 beneficial uses of receiving waters in Cucamonga Creek Channel Reach 1 due to its concrete lining and the presence of fencing, which restricts access; therefore, no significant impact is expected. The portions of SAR Reach 3, Mill Creek and Prado Basin Wetlands that could be impacted by Project implementation are not used as primary areas for REC 1 beneficial uses with the possible exception of fishing. Because the Project applicants are required to prepare WQMPs which are reviewed and approved by the City, no significant impacts are expected.

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Beneficial Use	Receiving Waters	Potential Impacts
REC2	SAR Reach 3, Cucamonga Creek Reach 1, Mill Creek, Prado Basin Wetlands	<p>Implementation of the Project is not expected to have any measurable impact to REC2 beneficial uses of receiving waters in Cucamonga Creek Channel Reach 1 because it is concrete lined and fenced to restrict access; therefore, no significant impact is expected.</p> <p>The portions of SAR Reach 3, Mill Creek and Prado Basin Wetlands that could be impacted by the Project are used as primary areas for REC 2 beneficial uses. Because the Project applicants are required to prepare WQMPs which are reviewed and approved by the City, no significant impacts are expected.</p>
WARM	SAR Reach 3, Mill Creek, Prado Basin Wetlands	<p>The portions of SAR Reach 3, Mill Creek, and Prado Basin Wetlands that the Project could impact serves many beneficial uses associated with warm freshwater habitat. Because the Project applicants are required to prepare WQMPs which are reviewed and approved by the City, no significant impacts are expected.</p>
WILD	SAR Reach 3, Cucamonga Creek Reach 1, Mill Creek, Prado Basin Wetlands	<p>Impacts to WILD beneficial uses for Cucamonga Creek Channel will be negligible because it is concrete lined and fenced to restrict access. The portions of SAR Reach 3, Mill Creek, and Prado Basin Wetlands that could be impacted by the Project serve many beneficial uses associated with wildlife habitat including water fowl. Because the Project applicants are required to prepare WQMPs which are reviewed and approved by the City, no significant impacts are expected.</p>
RARE	SAR Reach 3, Mill Creek, Prado Basin Wetlands	<p>The portions of SAR Reach 3, Mill Creek, and Prado Basin Wetlands that the project could impact serve many beneficial uses associated habitats for rare, threatened or endangered species such as the least Bell's vireo. Because the Project applicants are required to prepare WQMPs which are reviewed and approved by the City, no significant impacts are expected.</p>
LWRM	Cucamonga Creek Reach 1	<p>Impacts to LWRM beneficial uses for Cucamonga Creek Channel will be negligible because it is concrete lined and fenced to restrict access. To the extent that LWRM habitats are formed in concrete-lined channels, implementation of the Project will not change the benefits currently derived within the Cucamonga Creek Channel.</p>

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Beneficial Use	Receiving Waters	Potential Impacts
MUN	Chino II Groundwater Sub-basin	Implementation of the Project will improve the groundwater quality within the Chino II Groundwater Sub-basin through eventual elimination of the agricultural uses that presently cause high levels of nitrates in the drinking water supply. The urban uses resulting from build-out of the Project per The Avenue Specific Plan will not adversely impact the beneficial uses of the Chino II Groundwater Sub-basin as the Project will be required to comply with the City's MS4 permit, which requires the use of certain BMPs to ensure that any storm water runoff is sufficiently "clean" so as not to impact the beneficial uses of water.
IND	Chino II Groundwater Sub-basin	Implementation of the Project will not affect industrial uses of groundwater in the Chino Basin. No impacts are expected.
PROC	Chino II Groundwater Sub-basin	Implementation of the Project will improve the groundwater quality within the Chino II Groundwater Sub-basin through eventual elimination of the agricultural uses that presently cause high levels of nitrates in the drinking water supply. No negative impacts to the quality of the water supply for industrial processing purposes will result from the Project.

Impacts Related to Depletion of Groundwater Supplies or Interference with Groundwater Recharge

The Project Site is located in the Basin, which is one of the largest groundwater basins in Southern California, with over 5,000,000 acre feet of groundwater present. The Basin is important for supplying water for municipal, industrial, and agricultural uses. As previously discussed, the CBW and IEUA have developed the OBMP, which includes a comprehensive program that implements specific projects and regulatory requirements in order to effectively manage groundwater quantity and quality in the Basin.

One basic premise of the OBMP is that there is an optimum level for the groundwater table that translates into a "safe yield." Safe yield is defined as the amount of groundwater than can be extracted (e.g., from the Basin) without resulting in undesirable effects. Conversely, raising this optimum groundwater level could cause negative effects as well.

Groundwater extraction in the Project Site and vicinity currently occurs by agricultural operations as well as the Chino Desalter Authority (CDA). CDA oversees operations of the Chino I Desalter, which extracts water that contains high concentrations of TDS and nitrates; treats this water to remove excess salts; and delivers the resulting potable water to purveyors, such as the City; the Cities of Chino, Norco, Chino Hills; and the Jurupa Community Services District. As agricultural groundwater extraction, including

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groundwater extraction at the Project Site diminishes with conversion of the NMC (and surrounding areas) to urban land uses, desalter pumping operations will need to increase in order to ensure groundwater levels do not rise, thereby affecting the safe yield of the basin. Consequently, the transition to urban land use at the Project Site and throughout the southern portion of the NMC, as planned for in the NMC General Plan, will further the OBMP objective of maintaining a low groundwater table in the southern part of the Chino Basin, by increasing the amount of impervious land surfaces and thereby reducing the amount of water subject to onsite infiltration. The conversion from agricultural to urban uses is considered in the OBMP, and is anticipated to result in a positive impact to the groundwater basin.

The Project Site is composed of soils in the Delhi and Hilmar soil series. In its current state, land surfaces are pervious and water infiltration occurs to some degree. Delhi and Hilmar soils have rapid water infiltration rates and potentially have good groundwater recharge characteristics (U.S. Department of Agriculture Soil Conservation Service 1971, pages 27, 40-41). However as dairy applications of manure have taken place over time to the ground surface, a textural boundary has been created through which water does not easily infiltrate. Consequently, infiltration rates on lands used for dairying are effectively lowered. On the other hand, since all dairy wash water must be retained on the dairy site within wastewater lagoons; it would be expected that some water from these detention ponds would infiltrate through the soil and contribute to groundwater recharge, albeit recharge with low water quality. Therefore, while large amounts of water may be pumped from the ground by dairy operations, some recharge would also be expected to occur.

The NMC Final EIR indicated that the area south of State Highway 60, which is the general location of the Project Site, is unsuitable for recharge projects that are in the planning stage, due to low infiltration potential in the soils and poor water quality of the underlying groundwater. Due to these factors, most planned recharge projects under consideration are best located north of the freeway. The NMC Master Plan of Drainage (2000) documented the concern of the Chino Basin Water Conservation District that, although the NMC is not appropriate for large scale recharge projects, development projects within this area may miss opportunities to conserve water and enhance percolation. Development per The Avenue Specific Plan component of the Project will result in urban land uses which will result in a large portion of the Project Site being covered with impervious surfaces, e.g. roads, driveways, building pads. Runoff rates and volumes will increase and infiltration will decrease. The Avenue Specific Plan also includes parks and school sites which could be designed and landscaped to conserve water and enhance groundwater recharge compared to the present dairy land use.

Since the Project actually furthers the groundwater management objectives of the OBMP by limiting recharge into the southern portion of the Basin; and since the OBMP anticipates the cumulative impacts

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of urbanization of the Chino Basin and consequent conversion of agricultural land use (e.g., diminished agricultural groundwater extraction and projected need to increase groundwater pumping by desalters), no significant individual or cumulative negative impacts to aquifer volume or the groundwater table are expected to occur with implementation of the Project. Nevertheless, mitigation measures are included that would both conserve water and provide for enhanced groundwater recharge, as recommended in the NMC Master Water Plan (L. D. King, Inc. 2000).

Impacts Related to Alterations of Existing Drainage Patterns, Streams, or Increases to Rate or Amount of Surface Runoff

With respect to alterations to streams, the only jurisdictional waters or streams located on the Project Site is the Cucamonga Creek Channel. Since the Project does not propose any alteration to this facility, and the facility has capacity of accept Project generated runoff, there are no impacts in this regard.

Implementation of the proposed Project will not alter existing drainage patterns so much as it will channelize and direct drainage patterns through the construction of The Avenue Specific Plan Storm Drain Master Plan improvements. At build-out, Project drainage will eventually discharge into the existing Cucamonga Creek Channel and Bellegrave County Line Drainage Channels and ultimately the Prado Basin.

With respect to the amount of surface runoff, implementation of the Project will create impervious surfaces in an area where most surfaces were pervious. Runoff from the Project Site prior to implementation of the Project is approximately 508.9 cubic feet per second (cfs). Runoff at build-out of the Project Site per The Avenue Specific Plan is estimated to be 651.4 cfs. The Q100 peak storm discharge from the Bellegrave County Line Channel into Cucamonga Creek is projected to be approximately 3,400 cfs. Cucamonga Creek Channel Reach 1 is a concrete-lined flood control facility in its entirety, and was designed to accommodate the 100-year storm event at full build-out (urban development) of the watershed. Therefore, the projected flows from the Project Site (maximum approximately 142.5 cfs increase from existing flows) which will ultimately be discharged into the Cucamonga Creek Channel would not be sufficient to result in substantial unanticipated erosion or siltation to Cucamonga Creek.

Below the confluence of Cucamonga and Mill Creeks, however, the channel is natural and unimproved so increased flows could cause offsite erosion. At the Cucamonga Creek and Mill Creek confluence below Hellman Avenue, flows for the 100-year storm event are approximately 32,000 cfs. Cumulative increases in flows within Cucamonga Creek Channel due to upstream urban development may cause erosion of the bed and bank of the unimproved Mill Creek. Mill Creek is under the jurisdiction of the Army Corps of Engineers (ACOE) and it is their responsibility to maintain Mill Creek in the event erosion occurs.

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It is anticipated that the Mill Creek reach will be within the inundation zone (566 ft elevation) created by raising the level of Prado Dam (Albert A. Webb Associates 2006). Storm flows discharging from Cucamonga Creek at full inundation would have negligible erosion and siltation impacts to Mill Creek or the Prado Basin.

Cumulative increases in storm flows discharging from Cucamonga Creek Channel when the water level within the Basin is nearer to operational levels (490 ft. elevation) may cause adverse impacts to Mill Creek due to erosion of the stream bed and bank. Implementation of the Project would have negligible individual impacts, since the Q100 increase associated with the Project is approximately 142.5 cfs, which represents approximately 0.45 percent of the total flows at the Mill Creek/Cucamonga Creek confluence. The ACOE have indicated that the Los Angeles District has commenced work modify the dam in order to increase the capacity of the reservoir behind Prado Dam. These modifications will take place in three phases over the next five to eight years. Given the projected changes in water levels of the Prado Basin, and the construction of the dam improvements, which are anticipated to be completed prior to build-out of the Project, any potential cumulative impacts will be less than significant.

Impacts Related to Exceeding the Capacity of Drainage Facilities or Providing Additional Sources of Polluted Runoff

As previously discussed, implementation of the Project will result in the construction of facilities identified in The Avenue Specific Plan Storm Drain Master Plan (Figure 3-14) which will drain the Project Site south through NMC Backbone Storm Drain Facilities and the Cucamonga Creek Channel into the existing Belgrave County Line Drainage Facility. Since the ultimate development of the Project will require the construction of all proposed NMC Master Storm Drainage improvement and the Project is likely to be developed before completion of the NMC master facilities, interim facilities consisting of detention basins (ITDBs) will be constructed in the southern portion of each Planning Area as shown in Figure 3-14. The interim facilities have been sized to accommodate the expected Project runoff and a funding mechanism consisting of either a community facilities district, a homeowners association, or a combination thereof will be put in place to provide for ongoing maintenance, thus a less than significant impact is anticipated.

Otherwise Substantially Degrade Water Quality

As previously discussed, the Project applicants will be required to prepare SWPPPs (pursuant to NPDES Permit No. CAS000002) that identify construction and post-construction BMPs which will reduce or eliminate the discharge of pollutants into surface waters. The Project applicants will also be required to prepare SWQMPs (pursuant to the City's MS4 Permit) that incorporates site design, source control, and

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treatment control BMPs to protect the beneficial uses of surface water. The SWPPPs and WQMPs will be reviewed and approved by the City, thus there will be less than significant impacts to water quality.

Place Housing within a 100-Year Flood Hazard Area as Mapped On a Federal Flood Hazard Boundary or Flood Insurance Rate Map or Other Flood Hazard Delineation Map

The Project Site is not within the boundaries of a 100-year flood zone as shown on Flood Insurance Rate Maps published by the Federal Emergency Management Agency. Thus implementation of the Project will result in no impacts in this regard.

Place within A 100-Year Flood Hazard Area Structures, Which Would Impede or Redirect Flood Flows

As previously stated, the Project Site is not within the boundaries of a 100 year flood zone, thus implementation of the Project will result in no impacts in this regard.

Expose People or Structures to a Significant Risk of Loss, Injury or Death Involving Flooding, Including Flooding as a Result of the Failure of A Levee or Dam

According to the Geotechnical Reports, no dams or levees are within or adjacent to the Project Site. The San Antonio Dam, which is primarily used for flood control purposes and does not typically contain significant amounts of water, is located approximately 11 miles northwest of the Project Site. The Project Site is within the San Antonio Dam Inundation Zone. However, since the dam does not typically contain significant amounts of water less than significant impacts are associated with exposure due to flooding from the failure of a levee or dam.

Inundate the Project Site by Seiche, Tsunami, or Mudflow

According to the Geotechnical Reports, damage from tsunamis is generally confined to coastal areas that are 20 feet or less above sea level. Since the Project Site is not located near the coast or any confined bodies of water, the potential for risk of inundation from tsunami or seiche are less than significant.

The Project Site is generally level as is the surrounding areas; consequently the Project Site is not subject to mudflows. The Conceptual Mass Grading Plan for the Project (Figure 3-11) does not propose significant changes to the Project Site's elevation that would create conditions which could result in mudflows.

There is a less than significant impact associated with inundation from seiche, tsunami, or mudflow.

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5.8.8 Cumulative Impacts

As defined in Section 15355 of the CEQA Guidelines, a cumulative impact consists of an impact which is created as a result of the combination of the project evaluated in the EIR together with other projects causing related impacts. The discussion of cumulative impacts is limited because the Project is consistent with the regulatory schemes used in the evaluation of each environmental issue area discussed in Section 5.8.5.

Future land development projects within the NMC would cumulatively impact water quality in the region due to increased urban runoff. The nature of the pollutants found in runoff is expected to change from pollutants associated with agricultural land uses, such as bacteria, ammonia, nitrates, phosphorous and salts, to urban uses which produce contaminants such as oil and grease, trash and debris, and pesticides. Currently, dairies within the NMC operate under the authority of NPDES Permit No. CAGO18001 (Waste Discharge Requirement Order No. 99-11). However, because this permit is concerned with dairy operations, existing non-dairy properties would not be covered along with portions of dairy properties not developed with dairies. Future development of Subareas within the NMC would be required to obtain prepare and implement SWPPPs and WQMPs for all proposed development affording a more extensive amount of storm water and nuisance water quality protection. Therefore, development of the Project Site and vicinity with the implementation of water quality BMPs as required by the SWPPPs and WQMPs and the mitigation measures in Section 5.8.9 has the potential to produce a net beneficial cumulative impact on the quality of downstream surface waters and groundwater within the Chino Basin in the long-term, as stated in the NMC Final EIR.

However, Reach 1 of Cucamonga Creek Channel, Mill Creek (Prado Area), and Reach 3 of the Santa Ana River are currently in violation of their respective water quality standards. Cumulatively considerable impacts to these water bodies would occur since the permits that govern preparation of SWPPPs and WQMPs allow some discharge of non-storm water pollutants into receiving waters, and these waters are currently in violation. Once the NMC and other portions of the Chino Basin that support dairy/agricultural operations convert to urban uses, these impaired water bodies may revert to non-violation status, but until such time as the downstream receiving waters are not in violation, potentially significant cumulative effects could result from the Project and a Statement of Overriding Consideration would be required prior to Project approval.

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5.8.9 Mitigation Measures

NMC Mitigation Measures

Flooding

- NMC WQ-1 Prior to the issuance of grading permits, project developers shall submit a final drainage plan for each proposed project for review and approval by the City Engineer.
- NMC WQ-2 Prior to issuance of grading permits, project developers shall ensure that coordination between the City of Ontario and the San Bernardino County Flood Control District has been undertaken to demonstrate the ability of the project to meet County flood control requirements.
- NMC WQ-3 Prior to the issuance of building permits, project developers shall submit to the City Engineer proof of payment of the City's drainage fees, as applicable.
- NMC WQ-4 Prior to the issuance of grading permits, project developers shall provide and submit measures for approval by the City Engineer that shall ensure that all structures located within the boundaries of the Sphere of Influence, subject to flooding from 100-year storm events, are constructed on a pad of earth elevated at least one foot above 100-year flood elevations. This requirement will be monitored and enforced by the City Engineer.

Water Quality

- NMC WQ-5 Prior to moving construction equipment on a site within the Sphere of Influence, project developers shall provide evidence to the City Engineer that a National Pollutant Discharge Elimination System (NPDES) permit has been obtained from the State Water Resources Control Board (SWRCB). Once obtained, the NPDES permit shall be retained on the construction site throughout the construction period, and a copy shall be filed with the City Engineer.
- NMC WQ-6 During construction of individual projects, the City Engineer shall ensure compliance with all the terms and conditions outlined in the National Pollutant Discharge Elimination System (NPDES) permit, including the implementation of Best Management Practices (BMPs).
- NMC WQ-7 Prior to issuance of grading permits, project developers shall prepare a Storm Water Pollution Prevention Plan (SWPPP) for individual proposed projects. These plans shall be submitted to the City Engineer for review and comment prior to implementing and SWPPP provisions or starting any construction activity. A copy of the SWPPP shall be

held by the construction contractor(s) on the construction site throughout development of each project. The City Engineer will monitor and enforce the provisions of the SWPPP.

- NMC WQ-8 During operation of facilities within the Sphere of Influence, the individual project owners and operators shall ensure that all pest control, herbicide, insecticide and other similar substances used as part of maintenance of project features are handled, stored, applied and disposed of by those conducting facility maintenance in a manner consistent with all applicable federal, state and local regulations. The City Engineer shall monitor and enforce this provision.

Project Mitigation Measures

Mitigation measures would be required to address Project impacts. Mitigation measures HWQ-1 requires compliance with NPDES requirements and would reduce potentially significant impacts associated with polluted runoff to a less than significant level. Mitigation measures HWQ-2 and HWQ-3 would reduce potentially significant impacts associated with depletion of local groundwater supplies to less-than-significant levels. Project drainage and runoff impacts would be reduced to less-than-significant levels with incorporation of mitigation measure HWQ-4.

- HWQ-1 All Project related development and construction activities shall comply with the National Pollutant Discharge Elimination System (NPDES) regulations. Prior to the issuance of a grading permit, applicants shall demonstrate compliance with NPDES Storm Water Permit requirements to the satisfaction of the City. Applicable BMP provisions shall be incorporated into the NPDES Permit.
- HWQ-2 All new residences within the Project Site shall be provided with water conservation devices such as low flow showers and toilets.
- HWQ-3 All public landscaped areas resulting from implementation of the Project shall be required to use recycled water for irrigation purposes once the planned regional reclaimed water system becomes functional at the Project Site.
- HWQ-4 All new storm drain infrastructure, other than interim facilities, shall be consistent with either the NMC Master Plan of Drainage, the Master Plan of Drainage Update for NMC East unless formal amendments or deviations are coordinated with and approved by the City.
- HWQ-5 If grading or construction within any Planning Area proceeds prior to the installation of NMC Master Storm Drain Improvements needed to serve such Planning Area, interim

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detention basins, sized to accept upstream undeveloped flow in accordance with SWRCB requirements must be installed.

5.8.10 Level of Significance After Mitigation

As discussed in Section 5.8.8, cumulative impacts relative to water quality will remain even with implementation of NMC and Project mitigation measures. Therefore a Statement of Overriding Considerations would be required prior to Project approval.

5.9 LAND USE

Information in this section is based on the following documents:

- New Model Colony Final Environmental Impact Report, City of Ontario, 1997.
- The Avenue Specific Plan, JZMK, September 2006.

These documents are incorporated by reference.

5.9.1 Existing Conditions

The Project Site is currently developed with dairies, single-family residences, feed storage areas, and other various farming or cattle raising facilities. Other agricultural-related facilities, such as, above ground tanks and modular structures, are scattered throughout the Site. The Project Site also has utility and infrastructure facilities such as the Cucamonga Creek Channel and above ground transmission and distribution lines owned by Southern California Edison (SCE), an electrical substation, an SCE easement crossing the Site, paved roads, and drainage ditches.

The majority of the area around the Project Site is in dairy or agricultural use, with dairy farms, row crops, and agricultural related structures. Occupied single-family residential units and outbuildings, associate with those farm activities, still exist in the area. Land uses adjacent to the Project Site are as follows:

North: Existing residential community, vacant land and farm land

South: Farm land and vacant land

East: Farm land and vacant land

West: Farm land and vacant land

The NMC General Plan designates the surrounding areas as:

North: Low Density Residential, Elementary School, Flood Control and Green Belt

(Subareas 5 and 12)

South: Low, Medium, and High Density Residential, Flood Control and Green Belt (Subarea 23)

East: Low Density Residential and Green Belt (Subarea 12)

West: Medium Density Residential, high Density Residential and Green Belt (Subarea 17)

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The existing land uses are illustrated on Figure 3-3 and the NMC General Plan Land Use designations are shown on Figure 3-4.

The Avenue Specific Plan component of the Project will incorporate a traditional residential neighborhood that features a variety of residential single-family and multiple family housing types designed to be within easy walking distances to recreational amenities, retail and commercial uses, and school sites. The land uses proposed by the Project are consistent with NMC General Plan land use designations for the Project Site. The Project Site, the majority of which is Subarea 18, was expanded by the City for planning purposes to include portions of Subareas 12, 17, and 23 as shown in Figure 3-5, to encompass approximately 566 acres.

The Avenue Specific Plan proposes 2,326 dwelling units, and as such, is inconsistent with the NMC Land Use Plan (NMC General Plan Figure 3-5), however, there is an ambiguity in the NMC General Plan between the permitted residential density per the NMC Land Use Plan and the Development Capacity, (Table 3-4 of the NMC General Plan), which allows 2,059 dwelling units in the modified boundaries of Subarea 18. The General Plan Amendment component of the Project will clarify this ambiguity and amend the NMC General Plan Land Use Map to reflect the revised boundaries of Subarea 18 and to increase the total number of allowed residential dwelling units from 2,059 to 2,326.

5.9.2 Issues Identified During Public Scoping Meeting

During the scoping meeting inquiries were made as to whether future homes would be constructed adjacent to active dairies.

5.9.3 Issues Identified During NOP and Amended NOP Comment Letters

No comments were received relative to land use in response to the NOP or Amended NOP.

5.9.4 Thresholds of Significance

According to Appendix G of the State CEQA Guidelines, the proposed project is considered to have a significant land use related impact if the proposed Project would:

Physically divide an established neighborhood;

Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including but not limited to the general plan, specific plan, local coastal program, zoning, ordinance) adopted for the purpose of avoiding or mitigating an environmental effect;

Conflict with any applicable habitat conservation plan or natural community conservation plan.

5.9.5 Project Compliance with Existing Regulations

State Government Code Section 65302(a) requires that:

A land use element which designates the proposed general distribution and general location and extent of uses of the land for housing, business, industry, open space, including agriculture, natural resources, recreation, and enjoyment of scenic beauty, education, public buildings and grounds, solid waste disposal facilities, and other categories of public and private uses of land. The land use element shall include a statement of the standards of population density and building intensity recommended for the various districts and other territory covered by the plan. The land use element shall identify areas covered by the plan which are subject to flooding and shall be reviewed annually with respect to those areas.

State Government Code, Title 7, Division 1, Chapter 3, Article 8, Section 65450-57 grants authority to cities to adopt Specific Plans for purposes of implementing the goals and policies of their General Plans. The Government Code specifies that Specific Plans will be adopted by ordinance, and that the Specific Plan is required to be consistent with the General Plan.

The City will be adopting The Avenue Specific Plan along with other NMC Specific Plans, by ordinance, thereby establishing the zoning regulations for the development of the Project. The standards set by the Specific Plan component of the Project shall take precedence over the City Development Code, and in instances where the Specific Plan is silent, the City Development Code shall prevail.

As the governing document for The Avenue Specific Plan, consistency with the provisions described above will be required. The goals of the NMC General Plan Land Use Element is intended to guide overall structural organization and distribution of uses within the NMC. The NMC General Plan policies require the preparation of Specific Plans prior to development of any subarea in the NMC in accordance with State statutory requirements and the NMC General Plan policies and standards.

The NMC General Plan policies were adopted to accommodate residential, commercial, industrial, business park, open space, public, and other uses in a cohesive and distinctly identifiable mixed use community in accordance with the generalized distribution of uses depicted in the NMC General Plan.

The Avenue Specific Plan component of the Project must adhere to the goals, objectives, policies, and design principles of the NMC General Plan.

5.9.6 Design Considerations

The proposed design considerations are intended to achieve the vision for the NMC planning area as outlined in Chapter 2 of the NMC General Plan. The proposed Project reflects the types, organization and distribution of land uses depicted on the NMC General Plan Land Use Plan Figure 3-5.

5.9.7 Project Impacts

Implementation of the proposed Project will result in the conversion of existing and former agricultural and rural residential uses to a mix of residential, commercial, open space, parks, schools and other urban uses. The Avenue Specific Plan component of the project proposes 2,326 residential units on 480 acres, 174,000 square feet of community commercial uses, and approximately 21 acres of park and recreation uses, and approximately 30 acres for two school sites within the Project Site. Development of the proposed Project will permanently change the existing function type, and character of land use from agricultural uses to urban uses.

Potential conflicts between new development and existing agricultural land uses occur when the new development, by its nature, precludes or interferes with the continued agricultural use of adjacent or nearby land. In order to allow for the continued agricultural use of the area, the City has adopted an Agricultural Overlay District (Article 27 of Title 9 of the Ontario Municipal Code), that recognizes the right for agricultural operations to continue on an interim basis in the NMC, and provides guidelines to gradually transition to urban land uses. The Project will be required to comply with this policy established to protect agricultural land uses from conflict with non-agricultural land uses. The Project proposes mainly residential land uses along with neighborhood parks, one elementary and one middle school site, and two commercial sites. These uses would generally have a low potential to adversely affect the continued agricultural use of adjacent properties. The NMC General Plan projects virtually a 100% conversion of existing agricultural land to non-agricultural uses, except for approximately 200 acres of land that are owned by the County of San Bernardino and managed by the Southern California Land Foundation (SoCALF). The majority of the 200 acres is designated Prime Farmland and is leased to dairy operators. The SoCALF properties can only be used for agriculture and/or open space, however, the use of 1988 Park Bond Act funds for acquisition and maintenance of the property ensured that the land would be used for agricultural preserve. This property will not be converted to non-agricultural uses by the proposed

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Project. The proposed Project will, however, result in 549 acres of land currently used for dairy farming and irrigated crop production to be converted to urban uses. Therefore, the Project's impact to existing agricultural land use is considered significant which is consistent with the findings of the NMC General Plan Final EIR.

Impacts Related to Physically Dividing an Established Neighborhood

The NMC General Plan identifies the Project Site as located in an area that would be developed with urban land uses. Development as per The Avenue Specific Plan will be of similar design and size to adjacent developments to the north. Adjacent land uses to the south, east, and west are sparsely populated with no strong spatial community pattern. The Project will become an integral part of the NMC, which is a series of planned communities. Therefore, the Project will have no impacts with respect to physically dividing an established neighborhood.

Impacts Related to Conflicts with Land Use Plans, Policies, or Regulations

The proposed General Plan Amendment component of the Project is included to clarify an ambiguity that currently exists in the NMC General Plan, thus the Project will have no impacts in this regard.

Impacts Related to Habitat Conservation or Natural Community Conservation Plans

The Project Site is not located within the boundaries of an adopted habitat conservation plan or natural community conservation plan. No conflicts with any adopted NCCP or HCP will occur with Project implementation. Therefore, the Project will have no impact with regard to conflicts habitat or natural community conservation plans.

5.9.8 Cumulative Impacts

At build-out the proposed Project will result in a mix of residential, commercial, educational, recreational, and open space uses on the Project Site. These uses are comparable to the uses currently located in the City and are consistent with the uses planned in the NMC General Plan and analyzed in the NMC General Plan Final EIR.

5.9.9 Mitigation Measures

Implementation of the Project will not significantly impact land use; therefore, no mitigation is required.

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5.9.10 Level of Significance After Mitigation

No significant impacts associated with land use are anticipated with implementation of the proposed Project.

5.10 MINERAL RESOURCES

Information in this section is based on the following document:

- New Model Colony General Plan, City of Ontario, 1998. This document is incorporated by reference.

5.10.1 Existing Conditions

The Project Site lies within the San Bernardino and Orange County – Temescal Valley Production – Consumption regions of the Greater Los Angeles Area. Within and adjacent to the NMC, the lands have been classified into four categories based on their potential for sand and gravel resources. All of the lands within the NMC are classified as a Mineral Resource Zone 3 (MRZ-3). MRZ-3 classifications are areas containing mineral deposits, the significance of which cannot be evaluated from available data. Aggregate is a mineral resource which can have statewide or regional significance since the deposits (thought of as sand and gravel) either are of prime importance to meet future mineral needs, or of concern in making land use decisions which might affect the future availability and value of the resource. There are no known mineral resources of statewide importance on the Project Site. According to the NMC General Plan (1998), the resource potential is greater to the east and north of the NMC and decreases to the west and south, where the surficial deposits are known to be predominantly clayey and silty.

5.10.2 Issues Identified During Public Scoping Meeting

During the Public Scoping meeting, no comments were made regarding mineral resources.

5.10.3 Issues Identified in NOP or Amended NOP Comment Letters

No comments were received in response to the NOP or Amended NOP relative to mineral resources.

5.10.4 Thresholds of Significance

According to Appendix G of the CEQA Guidelines and the City's Initial Study form, potentially significant impacts related to mineral resources may result if a project:

- Results in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State; or

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- Results in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.

5.10.5 Project Compliance with Existing Regulations

The Project Site does not located within an area of locally-important mineral resource recovery delineated in the NMC General Plan. The Project Site is not located within an area that has been classified or designated as a mineral resource area by the NMC General Plan. Therefore, the Project is not subject to any regulations in regards to mineral resources.

5.10.6 Design Considerations

The Project Site is not located within an area of locally important mineral resource recovery delineated in the NMC General Plan. The Project Site is not located within an area that has been classified or designated as a mineral resource area by the NMC General Plan. Therefore, the Project is not designed to specifically avoid or reduce potential impacts related to mineral resources.

5.10.7 Project Impacts

There are no known mineral resources on the Project Site or immediate vicinity. Therefore, no impacts to mineral resources are anticipated.

5.10.8 Cumulative Impacts

There are no known mineral resources on the Project Site or immediate vicinity. Therefore, no cumulative impacts to mineral resources are anticipated.

5.10.9 Mitigation Measures

No impacts to mineral resources are anticipated; therefore, no mitigation measures are required.

5.10.10 Level of Significance After Mitigation

With implementation of the proposed Project, no impacts to mineral resources are expected to occur.

5.11 NOISE

Information in this section is based on the following documents:

- NMC Final EIR, City of Ontario, 1997. This document is incorporated by reference.
- The Avenue Specific Plan EIR Noise Analysis, Urban Crossroads, August 17, 2006. This document is contained in Appendix H of the Technical Appendices.

The NMC Final EIR evaluated potential noise impacts, which included short-term construction related impacts and impacts related to long-term operations. The NMC Final EIR stated that noise impacts related to construction activities were short-term in nature and, since the City did not have noise impact thresholds or regulations related to construction activities, less than significant impacts would result.

The NMC Final EIR also evaluated potential noise impacts related to the long-term operations of the build-out of the NMC. Sources of increased noise levels were related to the increased traffic associated with development of the NMC, stationery noise sources resulting from the conversion of agricultural uses to urban uses, and, depending on the location within the NMC, noise impacts related to airport operations.

This section of the DEIR evaluates the potentially significant impacts from noise that would result from implementation of the proposed project.

5.11.1 Existing Conditions

Noise is defined as unwanted or objectionable sound. The effect of noise on people can include general annoyance, interference with speech communication, sleep disturbance and, in the extreme, hearing impairment. The unit of measurement used to describe a noise level is the decibel (dB). The human ear is not equally sensitive to all frequencies within the sound spectrum. Therefore, the "A-weighted" noise scale, which weights the frequencies to which humans are sensitive, is used for measurements. Noise levels using A-weighted measurements are written dB(A) or dBA. Decibels are measured on a logarithmic scale which quantifies sound intensity in a manner similar to the Richter scale used for earthquake magnitudes. Thus, a doubling of the energy of a noise source, such as doubling a traffic volume, would increase the noise level by 3 dBA; a halving of the energy would result in a 3 dBA decrease.

The term CNEL is the abbreviation for Community Noise Equivalent Level. CNEL is a 24-hour average noise level with adjustments. For noise that impacts a site and occurs between 7:00 PM and 10:00 PM,

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the actual average level is adjusted upward by 5 dBA. For noise that impacts a site and occurs between 10:00 PM and 7:00 AM, the actual average level is adjusted upward by 10 dBA. These adjustments could make the CNEL (a 24-hour average) as much as seven dBA higher than the true 24-hour average. The above standards assume that typical wood frame homes provide a 10 dBA outdoor-to-indoor noise reduction with windows open and a 20 dBA reduction with windows closed.

Sensitive receptors are areas where humans are participating in activities that may be subject to the stress of significant interference from noise. Land uses associated with sensitive receptors often include residential dwellings, mobile homes, hotels, motels, hospitals, nursing homes, education facilities, and libraries. Other receptors include office and industrial buildings, which are not considered as sensitive as single-family homes, but are still protected by the City land use compatibility standards.

The Project Site is subject to noise from Edison Avenue, Hellman Avenue, Schaefer Avenue, Haven Avenue, and adjacent land uses. Ambient noise levels are occasionally affected from aircraft using the Chino Airport. Adjacent land uses are currently residential and agricultural.

Presently, the Project vicinity is used mainly for agriculture, with a significant portion of the agricultural uses being operating dairy farms. A potential noise source from the dairy farms is the machines that are used to mix feed for the cattle. These machines are operated approximately four times a day, twice in the morning and twice in the evening for fifteen minutes each time. Eventually, with development of the NMC as per the NMC General Plan, the dairy farms will be vacated. Table 5.11-1 presents the results of the noise level measurements taken at four locations on the Project Site. The noise measurements were recorded by Urban Crossroads, Inc. between the hours of 3:40 PM and 5:15 PM on May 1, 2005. All locations were monitored for a period of 10 minutes.

Table 5.11-1 Existing (Ambient) Noise Level Measurements

Observer Location	Description	Time of Measurement	Primary Noise Source	Equivalent Noise Levels (dBA)	Equivalent Noise Levels (CNEL)
1	Located 50 feet from the feed mixing equipment and tractor.	3:43 PM	Mixing Equipment	83.5	-
2	Located approximately 100 feet from the centerline of Archibald Avenue.	4:20 PM	Archibald Avenue	62.0	62.5
3	Located approximately 100 feet from the centerline of Haven Avenue.	4:44 PM	Haven Avenue	56.7	57.2

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Observer Location	Description	Time of Measurement	Primary Noise Source	Equivalent Noise Levels (dBA)	Equivalent Noise Levels (CNEL)
4	Located approximately 100 feet from the centerline of Edison Avenue.	5:03 PM	Edison Avenue	55.9	56.3

5.11.2 Issues Identified During Public Scoping Meeting

No comments were made with respect to noise at the public scoping meeting.

5.11.3 Issues Identified in NOP or Amended NOP Comment Letters

No comments were received in response to the NOP or Amended NOP relative to noise.

5.11.4 Thresholds of Significance

According to Appendix G of the CEQA Guidelines and the City's Initial Study checklist, the proposed project is considered to have a significant noise-related impact if the Project would result in:

- Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies (65 dBA CNEL exterior, 45 dBA CNEL interior);
- Exposure of persons to or generation of excessive groundbourne vibration or groundbourne noise levels (groundborne vibrations include natural phenomena (e.g., earthquakes) or manmade causes (e.g., machinery);
- A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project (An increase of greater than 3 dBA CNEL);
- A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project;
- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, expose people residing or working in the Project vicinity to excessive noise levels; and

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- For a project within the vicinity of a private airstrip, expose people residing or working in the Project vicinity to excessive noise levels.

5.11.5 Project Compliance with Existing Regulations

Noise Measurement Standards

Community noise is generally not a steady state and varies with time. The previously described and additional following standards are used to define noise levels:

- **A-Weighted Decibels (dBA)** – Equivalent sound levels calculated from sound pressure levels.
- **Equivalent Noise Level (Leq)** – The Leq is a measurement of sound energy over a specified time (usually 1 hour). Leq represents the amount of variable sound energy received by a receptor over a timed interval in a single numerical value.
- **Day/Night Noise Level (Ldn)** – The Ldn is a 24-hour, time-weighted annual average noise level, measured in decibels, with an added penalty for people's increased sensitivity to noise at night from 10 PM to 7 AM. The Environmental Protection Agency (EPA) identifies 45 Ldn indoors and 55 Ldn outdoors as the desirable maximum level of noise.
- **Community Noise Equivalent Level (CNEL)** - The weighted average of the intensity of a sound, with corrections for time of day, and averaged over 24 hours. The time of day corrections require the addition of 5 decibels to dBA Leq sound levels in the evening from 7 PM to 10 PM, and the addition of 10 decibels to dBA Leq sound levels at night between 10 PM and 7 AM.

City of Ontario Standards

The Noise Element of the 1992 General Plan, which is directly referenced in the NMC General Plan, has identified 65 dBA CNEL as the maximum acceptable noise level for noise sensitive uses such as residential and public institutions and 45 dBA CNEL in the interior of buildings. The maximum acceptable noise level for recreation areas, livestock areas, and wildlife preserves is 70 dBA CNEL.

The Project construction is subject to the City Land Use Code Section 9-1.3305, which prescribes limits on noise produced on one land use as it occurs on another land use. Also, construction activities of the

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proposed Project are subject to the City ordinance that prohibits construction activities on Sundays, Federal Holidays, and other days between 7 PM and 7 AM.

5.11.6 Design Considerations

The Avenue Specific Plan design guidelines and development standards incorporates walls and setbacks which in themselves, facilitate noise attenuation. Development within the Project Site will be designed to conform to the requirements contained in the NMC General Plan and The Avenue Specific Plan (Section 6 Design Guidelines).

5.11.7 Project Impacts

Traffic Noise Prediction Model

The projected roadway noise impacts from vehicular traffic were projected using a computer program that replicates the Federal Highway Administration (FHWA) Traffic Noise Prediction Model FHWA-RD-77-108 (the FHWA Model). The FHWA's model arrives at a predicted noise level through a series of adjustments to the References Energy Mean Emission Level (RETEL). Adjustments are then made to the RETEL to account for: the roadway classification (e.g., collector, secondary, etc.) the roadway active width (i.e., the distance between the center of the outermost travel lanes on each side of the roadway), the total average daily traffic (ADT), the travel speed, the percentages of automobiles, medium trucks, and heavy trucks in the traffic volume, the roadway grade, the angle of view (e.g., whether the roadway view is blocked), the site conditions ("hard" or "soft" relates to the absorption of the ground, pavement, or landscaping), and the percentage of total ADT which flows each hour throughout a 24-hour period. Table 5.11-2 presents the offsite roadway parameters.

Table 5.11-2 Offsite Roadway Parameters

Roadway	Segment	Roadway Classification ¹	Vehicle Speed (mph)	Site Conditions
Archibald Avenue	n/o Riverside Dr.	Standard Arterial	45	Soft
Archibald Avenue	s/o Riverside Dr.	Divided Arterial Parkway 1-2	50	Soft
Archibald Avenue	s/o Chino Ave.	Divided Arterial Parkway 1-2	50	Soft
Archibald Avenue	s/o Edison Ave.	Divided Arterial Parkway 1A	50	Soft
Archibald Avenue	s/o Eucalyptus Ave.	Divided Arterial Parkway 1A	50	Soft

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Roadway	Segment	Roadway Classification ¹	Vehicle Speed (mph)	Site Conditions
Archibald Avenue	s/o Merrill Ave.	Divided Arterial Parkway 1A	50	Soft
Chino Avenue	w/o Archibald Ave.	Collector	40	Soft
Chino Avenue	e/o Archibald Ave.	Collector	40	Soft
Edison Avenue	w/o Euclid Ave.	Divided Arterial Parkway 1-1	50	Soft
Edison Avenue	e/o Euclid Ave.	Divided Arterial Parkway 1-1	50	Soft
Edison Avenue	e/o Grove Ave.	Divided Arterial Parkway 1-1	50	Soft
Edison Avenue	e/o Vineyard Ave.	Divided Arterial Parkway 1A	50	Soft
Edison Avenue	e/o Haven Ave.	Divided Arterial Parkway 1A	50	Soft
Euclid Avenue	n/o Edison Ave.	Divided Arterial Parkway 1A	50	Soft
Euclid Avenue	s/o Edison Ave.	Divided Arterial Parkway 1A	50	Soft
Grove Avenue	n/o Edison Ave.	Divided Arterial Parkway 2-1	45	Soft
Grove Avenue	s/o Edison Ave.	Divided Arterial Parkway 2-1	45	Soft
Haven Avenue	n/o Riverside Dr.	Divided Arterial Parkway 2-2	45	Soft
Haven Avenue	s/o Riverside Dr.	Divided Arterial Parkway 2-2	45	Soft
Haven Avenue	s/o Chino Ave.	Divided Arterial Parkway 2-2	45	Soft
Haven Avenue	s/o Edison Ave.	Divided Arterial Parkway 2-2	45	Soft
Merill Avenue	w/o Archibald Ave.	Standard Arterial	45	Soft
Riverside Drive	w/o Vineyard Ave.	Standard Arterial	45	Soft
Riverside Drive	e/o Vineyard Ave.	Standard Arterial	45	Soft
Riverside Drive	e/o Archibald Ave.	Standard Arterial	45	Soft
Riverside Drive	e/o Haven Ave.	Standard Arterial	45	Soft
Schaefer Avenue	e/o Vineyard Ave.	Standard Arterial	45	Soft
Vineyard Avenue	n/o Riverside Dr.	Divided Arterial Parkway 1-1	50	Soft
Vineyard Avenue	s/o Riverside Dr.	Divided Arterial Parkway 1-1	50	Soft

The average daily traffic volumes used for the Noise Study (2006) were obtained from The Avenue Specific Plan Traffic Impact Analysis Report prepared by Urban Crossroads, Inc. in August 2006 (Table 5.11-3).

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Table 5.11-3 Average Daily Traffic (1,000s)

Roadway	Segment	AVERAGE DAILY TRAFFIC (IN 1000's)		
		Existing	Year 2015	
			No Project	With Project
Archibald Avenue	s/o Merrill Ave.	13.0	66.0	68.2
Archibald Avenue	s/o Eucalyptus Ave.	9.7	63.2	66.0
Archibald Avenue	s/o Edison Ave.	11.7	68.4	71.8
Archibald Avenue	s/o Chino Ave.	11.4	37.4	43.1
Archibald Avenue	s/o Riverside Dr.	14.8	30.6	36.1
Archibald Avenue	n/o Riverside Dr.	16.5	31.4	35.7
Chino Avenue	w/o Archibald Ave.	3.8	24.1	24.2
Chino Avenue	e/o Archibald Ave.	4.2	32.0	32.4
Edison Avenue	w/o Euclid Ave.	11.5	27.7	29.0
Edison Avenue	e/o Euclid Ave.	6.2	31.1	33.0
Edison Avenue	e/o Grove Ave.	6.3	38.9	41.7
Edison Avenue	e/o Vineyard Ave.	-	48.7	52.7
Edison Avenue	e/o Haven Ave.	-	34.3	42.8
Euclid Avenue	s/o Edison Ave.	13.3	77.5	77.9
Euclid Avenue	n/o Edison Ave.	15.5	67.0	67.2
Grove Avenue	s/o Edison Ave.	1.6	44.3	45.1
Grove Avenue	n/o Edison Ave.	2.8	36.8	36.8
Haven Avenue	s/o Edison Ave.	-	20.6	22.7
Haven Avenue	n/o Riverside Dr.	16.1	21.2	23.6
Haven Avenue	s/o Riverside Dr.	2.1	23.2	25.6
Haven Avenue	s/o Chino Ave.	-	20.4	22.0
Merill Avenue	w/o Archibald Ave.	3.6	32.3	32.9
Riverside Drive	w/o Vineyard Ave.	10.3	30.7	31.7
Riverside Drive	e/o Haven Ave.	6.6	34.9	35.3
Riverside Drive	e/o Archibald Ave.	9.9	29.0	29.4
Riverside Drive	e/o Vineyard Ave.	11.8	28.8	29.6
Schaefer Avenue	e/o Vineyard Ave.	-	31.6	34.6

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Roadway	Segment	AVERAGE DAILY TRAFFIC (IN 1000's)		
		Existing	Year 2015	
			No Project	With Project
Vineyard Avenue	n/o Riverside Dr.	7.3	44.6	46.9
Vineyard Avenue	s/o Riverside Dr.	-	48.8	51.4

Table 5.11-4 presents the hourly traffic flow distributions (vehicle mix) used for the noise analysis. The vehicle mix is based on the typical Southern California required vehicle mix. The vehicle mix provides the hourly distribution percentages of automobile, medium trucks and heavy trucks for input into the FHWA Model.

Table 5.11-4 Hourly Traffic Flow Distributions

Motor Vehicle Type	Daytime (7 AM to 7 PM)	Evening (7 PM to 10 PM)	Night (10 PM to 7 AM)	Total % Traffic Flow
Automobiles	77.5%	12.9%	9.6%	97.42%
Medium Trucks	84.8%	4.9%	10.3%	1.84%
Heavy Trucks	86.5%	2.7%	10.8%	0.74%

Offsite Transportation Related Noise Impacts

The primary source of noise impacts on the Project Site are noise from Archibald Avenue and Edison Avenue. The level of traffic noise depends on three primary factors: (1) the volume of the traffic, (2) the speed of the traffic, and (3) the number of trucks in the flow of traffic. Generally, the loudness of traffic noise is increased by heavier traffic volumes, higher speeds, and greater number of trucks.

To assess the offsite transportation related noise level impacts associated with development of the Project, traffic noise contours were developed for existing present-day noise conditions without the Project, Year 2015 without the Project, and Year 2015 with the Project. Noise contours represent the distance to noise levels of a constant value and are measured from the center of the roadway. Noise contour boundaries are generally used as a planning tool to assess the compatibility of a land use type in a given area impacted by noise and to assess the need for additional analysis. In addition, the noise contours do not take into account the effect of any existing noise barriers or topography that may affect ambient noise levels. Table 5.11-5 presents a comparison of Year 2015 with and without Project noise levels. In this comparison, the roadway noise impacts on all segments will increase from 0.0 dBA CNEL

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to 1.0 dBA CNEL with the development of the proposed Project. As discussed above, Project traffic must create a noise level increase in the area adjacent to the roadway segment greater than 3 dBA and the resulting noise level must exceed the City's 65 dBA CNEL exterior noise standard in order to be considered a significant noise impact. Therefore, the Project will not generate a significant permanent increase in ambient noise levels or expose persons to noise levels in excess of the standards established in the City's General Plan or noise ordinance. No mitigation is required.

Table 5.11-5 Offsite Project Related Traffic Noise Impacts

Road	Segment	CNEL at 100 Feet (dBA)		Increase	Significant Impact?
		Without Project	With Project		
Archibald Avenue	n/o Riverside Dr.	67.0	67.6	0.6	NO
Archibald Avenue	s/o Riverside Dr.	68.3	69.0	0.7	NO
Archibald Avenue	s/o Chino Ave.	69.1	69.7	0.6	NO
Archibald Avenue	s/o Edison Ave.	71.9	72.1	0.2	NO
Archibald Avenue	s/o Eucalyptus Ave.	71.6	71.7	0.1	NO
Archibald Avenue	s/o Merrill Ave.	71.7	71.9	0.2	NO
Chino Avenue	w/o Archibald Ave.	64.6	64.6	0.0	NO
Chino Avenue	e/o Archibald Ave.	65.8	65.9	0.1	NO
Edison Avenue	w/o Euclid Ave.	68.0	68.2	0.2	NO
Edison Avenue	e/o Euclid Ave.	68.5	68.7	0.2	NO
Edison Avenue	e/o Grove Ave.	69.4	69.8	0.4	NO
Edison Avenue	e/o Vineyard Ave.	70.4	70.8	0.4	NO
Edison Avenue	e/o Haven Ave.	68.9	69.9	1.0	NO
Euclid Avenue	n/o Edison Ave.	71.8	71.8	0.0	NO
Euclid Avenue	s/o Edison Ave.	72.4	72.5	0.1	NO
Grove Avenue	n/o Edison Ave.	67.9	67.9	0.0	NO
Grove Avenue	s/o Edison Ave.	68.7	68.7	0.0	NO
Haven Avenue	n/o Riverside Dr.	65.4	65.8	0.3	NO
Haven Avenue	s/o Riverside Dr.	65.7	66.2	0.5	NO
Haven Avenue	s/o Chino Ave.	65.2	65.5	0.3	NO
Haven Avenue	s/o Edison Ave.	65.2	65.7	0.5	NO
Merrill Avenue	w/o Archibald Ave.	67.1	67.2	0.1	NO

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		CNEL at 100 Feet (dBA)			
Riverside Drive	w/o Vineyard Ave.	66.9	67.1	0.2	NO
Riverside Drive	e/o Vineyard Ave.	66.6	66.8	0.2	NO
Riverside Drive	e/o Archibald Ave.	66.7	66.7	0.0	NO
Riverside Drive	e/o Haven Ave.	67.5	67.5	0.0	NO
Schaefer Avenue	e/o Vineyard Ave.	67.1	67.4	0.3	NO
Vineyard Avenue	n/o Riverside Dr.	70.0	70.3	0.3	NO
Vineyard Avenue	s/o Riverside Dr.	70.4	70.7	0.3	NO

Onsite Transportation Related Noise Impacts

Using the FHWA traffic noise prediction model, calculations of the expected future noise impacts were completed. Table 5.11-6 presents a summary of future with Project noise levels. Since individual developer site plans and grading plans for the future developments do not exist yet, a centerline to noise barrier distance of 100 feet is assumed with an observer distance 10 feet from the noise barrier location.

Table 5.11-6 Future Exterior Noise levels (dBA CNEL)

Planning Area	Roadway	Unmitigated	Mitigated	Barrier Height (In Feet)
1	Schaefer Avenue	66.9	60.9	6.0
3	Schaefer Avenue	67.0	61.1	6.0
6A and 9A	Schaefer Avenue	60.2	-	-
9C, 9D, 10B, and 11	Schaefer Avenue	60.8	-	-
2	Edison Avenue	70.2	64.3	6.0
3 and 5	Edison Avenue	70.3	64.3	6.0
7 and 8	Edison Avenue	68.4	62.5	6.0
9	Edison Avenue	68.2	62.3	6.0
10B and 11	Edison Avenue	69.2	63.3	6.0
5, 6, and 7	Archibald Avenue	70.4	64.4	6.0

Based on the FHWA traffic noise prediction model, the future unmitigated exterior noise levels for the analyzed street segments bordering the residential portions of the Project Site will range from 60.2 to 70.4

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dBA CNEL at 110 feet from centerline. With a 6.0' noise barrier for Planning Areas 1, 2, 3, 5, 6, 7, 8, 9, 10B, and 11, the exterior noise levels for the single-family residential areas within the Project Site will range from 60.2 to 64.4 dBA CNEL. Tables 5.11-7 and 5.11-8 present a summary of future 1st floor and 2nd floor noise levels with the recommended noise barrier. The levels for the proposed Project will range from 59.6 to 69.7 dBA CNEL at the facades 20 feet from the noise barrier.

Once individual residential development plans are completed, an analysis will be required to address the proper mitigation to meet the City's exterior standard of 65 and interior standard of 45 dBA CNEL. It should also be noted that the Project Site is located near both the Chino and Ontario Airports. Though the Project is not within the 65 dBA CNEL contour of either airport, the Project may be subject to noise from aircraft flyovers for both airports.

Table 5.11-7 First Floor Interior Noise Impacts (dBA CNEL)

Planning Area	Roadway	Noise Impacts at Facade	Interior Noise Level for Windows		Required Interior Noise Reduction
			Open ¹	Closed ²	
1	Schaefer Avenue	60.4	48.4	40.4	15.4
3	Schaefer Avenue	60.5	48.5	40.5	15.5
6A and 9A	Schaefer Avenue	59.7	47.7	39.7	14.7
9C, 9D, 10B, & 11	Schaefer Avenue	60.3	48.3	40.3	15.3
2	Edison Avenue	63.7	51.7	43.7	18.7
3 and 5	Edison Avenue	63.8	51.8	43.8	18.8
7 and 8	Edison Avenue	61.9	49.9	41.9	16.9
9	Edison Avenue	61.7	49.7	41.7	16.7
10B and 11	Edison Avenue	62.7	50.7	42.7	17.7
5, 6, and 7	Archibald Avenue	63.8	51.8	43.8	18.8

¹ A minimum of 12 dBA noise reduction is assumed with a windows open condition² A minimum of 20 dBA noise reduction is assumed with a windows closed condition

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Table 5.11-8 Second Floor Interior Noise Impacts (dBA CNEL)

Planning Area	Roadway	Noise Impacts at Facade	Interior Noise Level for Windows		Required Interior Noise Reduction
			Open¹	Closed²	
1	Schaefer Avenue	66.3	54.3	46.3	21.3
3	Schaefer Avenue	66.4	54.4	46.4	21.4
6A and 9A	Schaefer Avenue	59.6	47.6	39.6	14.6
9C, 9D, 10B, and 11	Schaefer Avenue	60.2	48.2	40.2	15.2
2	Edison Avenue	69.5	57.5	49.5	24.5
3 and 5	Edison Avenue	69.6	57.6	49.6	24.6
7 and 8	Edison Avenue	67.8	55.8	47.8	22.8
9	Edison Avenue	67.5	55.5	47.5	22.5
10B and 11	Edison Avenue	68.5	56.5	48.5	23.5
5, 6, and 7	Archibald Avenue	69.7	57.7	49.7	24.7

¹A minimum of 12 dBA noise reduction is assumed with a windows open condition

²A minimum of 20 dBA noise reduction is assumed with a windows closed condition

Non-Transportation Noise Related Impacts

The primary source of non-transportation related noise will be from the proposed school and parks which are located within the interior portion of the Project Site. Activities at the school and park sites such as playgrounds and fields, could impact the adjacent residences. The City's Noise Element limits the noise levels from non-transportation sources at residential uses to 45 dBA Leq from the hours of 10 PM to 7 AM and to 65 dBA Leq from the hours of 7 AM and to 10 PM. The proposed middle school is located at the corner of The Avenue and Turner Avenue. The proposed elementary school is located between the west end of The Avenue and the flood control channel. The proposed park sites are located in Planning Areas 1B, 2A, 5, 8, and 9C. Typical noise impacts associated with schools are playground noise, parking lot activities, and intercom related noises. Activities at the parks such as ball games, skate parks, and playgrounds could impact the adjacent residential lots.

To minimize potential noise impacts to the proposed nearby homes, the Noise Study recommended that an 8.0 foot noise barrier for all areas bordering commercial sites and a 6.0 foot noise barrier for all residential areas bordering park and school sites to reduce potential impacts.

Portions of the site are currently developed with dairy farms that operate feed mixers. These machines typically operate for a period of fifteen minutes twice in the morning and twice in the afternoon and produce a constant noise level of 83.5 dBA Leq when measured at 50 feet. It is anticipated that dairy

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operations will cease, and the dairies will be replaced with urban uses in the future, thus noise generated by dairy machinery will cease. However, if feed mixers remain, an 8.0 foot noise barrier is recommended at all bordering residential areas to reduce potential impacts.

Short-term Construction Related Noise Impacts

Construction noise represents a short-term impact on the ambient noise levels. Noise generated by construction equipment, including trucks, graders, bulldozers, concrete mixers and portable generators can reach high levels. Grading activities typically represent one of the highest potential sources for noise impacts.

The U.S. Environmental Protection Agency (U.S. EPA) has compiled data regarding the noise generating characteristics of specific types of construction equipment. These data are shown on Figure 5.11-1. As shown, noise levels generated by heavy construction equipment can range from approximately 68 dBA to noise levels in excess of 100dBA when measured at 50 feet. However, these noise levels would diminish rapidly with distance from the construction site at a rate of approximately 6 dBA per doubling distance.

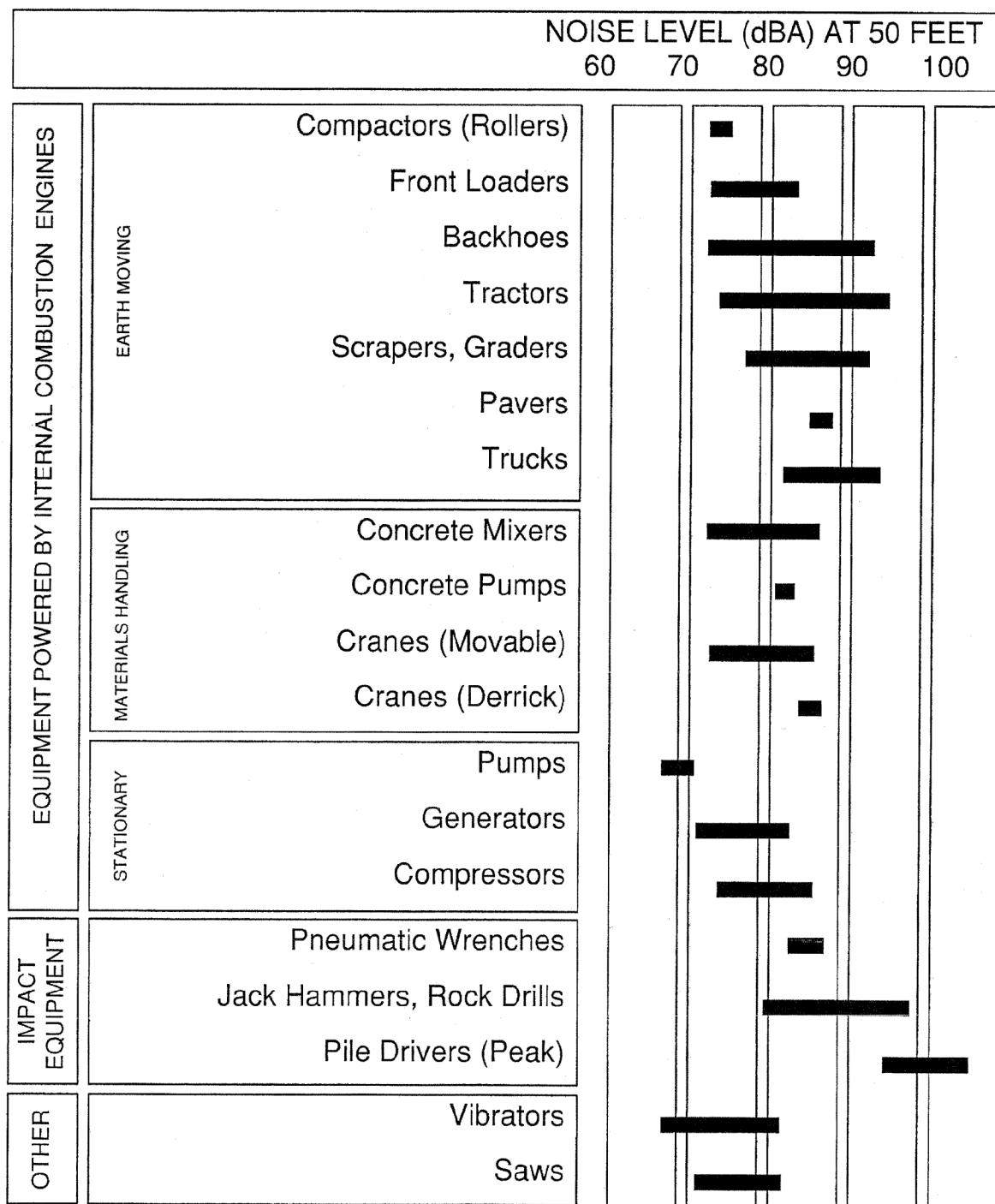
Field measurements show that construction noise levels generated by commonly used grading equipment (e.g., loaders, graders, and trucks) generate noise levels that typically do not exceed the middle of the ranges shown on Figure 5.11-1. For purposes of the Noise Analysis contained in Appendix H, an overall grading noise level of 89 dBA at 50 feet was used as the worst-case maximum exterior noise level. Using a drop off rate of 6 dBA per doubling of distance, noise levels at 100 feet are estimated at 83 dBA and at 200 feet are estimated at 77 dBA. Construction noise is of short-term duration and will not present any long-term, permanent impacts on the Project Site or the surrounding area.

5.11.8 Cumulative Impacts

Offsite Transportation Related Noise Impacts

Cumulative increases in traffic noise levels along roadways in the vicinity were estimated by comparing the Year 2015 with Project scenario to existing conditions. Table 5.11-9 describes how much noise levels are projected to increase over existing conditions with the proposed Project and all other traffic growth projected for Year 2015. Noise levels are expected to increase from 0.1 to 14.5 dBA CNEL. Based on the standard of 3 dBA CNEL being considered a significant impact, there are multiple segments within the Project Site that will increase by more than 3 dBA CNEL. Thus the proposed Project will result in a significant cumulative impact.

Source: Urban Crossroads
Not to Scale



NOTE: Based on limited available data samples.

SOURCE: United States Environmental Protection Agency, 1971,
"Noise from Construction Equipment and Operations,
Building Equipment, and Home Appliances," NTID 300-1.



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Printed: 1:53 pm 08/28/2006 File: P:\32044.00\GIS\Maps\Figure-5.11-1.mxd | Cartographic Design By: Tracy Barger | Geographic Information Systems

Figure: 5.11-1
Typical Construction Noise Levels
The Avenue / New Model Colony

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5.11-9 Cumulative Offsite Traffic Noise Contributions

Roadway	Segment	CNEL at 100 Feet (dBA)		Increase	Significant Impact?
		Existing	With Project		
Archibald Avenue	n/o Riverside Dr.	64.2	67.6	3.4	YES
Archibald Avenue	s/o Riverside Dr.	65.1	69.0	3.9	YES
Archibald Avenue	s/o Chino Ave.	64.0	69.7	5.8	YES
Archibald Avenue	s/o Edison Ave.	64.2	72.1	7.9	YES
Archibald Avenue	s/o Eucalyptus Ave.	63.4	71.7	0.1	NO
Archibald Avenue	s/o Merrill Ave.	64.7	71.9	0.2	NO
Chino Avenue	w/o Archibald Ave.	56.6	64.6	8.0	YES
Chino Avenue	e/o Archibald Ave.	57.0	65.9	8.9	YES
Edison Avenue	w/o Euclid Ave.	64.2	68.2	4.0	YES
Edison Avenue	e/o Euclid Ave.	61.5	68.7	7.3	YES
Edison Avenue	e/o Grove Ave.	61.5	69.8	8.2	YES
Edison Avenue	e/o Vineyard Ave.	-	70.8	-	-
Edison Avenue	e/o Haven Ave.	-	69.9	-	-
Euclid Avenue	n/o Edison Ave.	65.5	71.8	6.4	YES
Euclid Avenue	s/o Edison Ave.	64.8	72.5	7.7	YES
Grove Avenue	n/o Edison Ave.	56.7	67.9	11.2	YES
Grove Avenue	s/o Edison Ave.	54.2	68.7	14.5	YES
Haven Avenue	n/o Riverside Dr.	64.2	65.8	1.7	NO
Haven Avenue	s/o Riverside Dr.	55.3	66.2	10.9	YES
Haven Avenue	s/o Chino Ave.	-	65.5	-	-
Haven Avenue	s/o Edison Ave.	-	65.7	-	-
Merill Avenue	w/o Archibald Ave.	57.6	67.2	9.6	YES
Riverside Drive	w/o Vineyard Ave.	62.2	67.1	4.9	YES
Riverside Drive	e/o Vineyard Ave.	62.8	66.8	4.0	YES
Riverside Drive	e/o Archibald Ave.	62.0	66.7	4.7	YES
Riverside Drive	e/o Haven Ave.	60.3	67.5	7.3	YES
Schaefer Avenue	e/o Vineyard Ave.	-	67.4	-	-

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Roadway	Segment	CNEL at 100 Feet (dBA)		Increase	Significant Impact?
		Existing	With Project		
Vineyard Avenue	n/o Riverside Dr.	62.2	70.3	8.1	YES
Vineyard Avenue	s/o Riverside Dr.	-	70.7	-	-

The ADT used for the cumulative analysis includes existing noise levels resulting from traffic generated both within and outside the NMC, plus the Project-generated traffic noise, plus the additional specific plan projects currently proposed in the NMC which will develop in the reasonably foreseeable future. The NMC is currently characterized as a relatively quiet rural area. The noise analysis shows that Project vicinity will increase by more than 3 dBA CNEL. In some areas within the vicinity, no sensitive receptors exist, but in some locations residents, school children and outdoor agricultural workers will be exposed to noise levels that exceed thresholds. Within the NMC, virtually all rural uses will be replaced by new development over time. On a project-by-project basis, increases in noise will be addressed through on-site mitigation; thereby cumulative ambient noise levels within the NMC will be mitigated over time for sensitive receptors that are developed in the future. In the interim, some existing sensitive receptors such as homes associated with dairies will remain while development occurs nearby. It would not be necessary or appropriate to upgrade windows or build walls in front of these existing homes to mitigate for noise increases because in the future they are expected to be demolished or incorporated into development project, which in turn will mitigate for traffic-related noise impacts.

Some of the cumulative increases in noise within the NMC are currently occurring along roadways due to traffic generated in other jurisdictions located to the south, west and east, and the developed portion of the City located to the north. Currently there are no joint fee programs or mitigation strategies for addressing these cross-jurisdictional cumulative noise increases. Legally, the City has no ability to require the County of Riverside or City of Chino to mitigate noise impacts resulting from traffic that originates in one of those jurisdictions when such impacts affect sensitive receptors in the NMC. The reverse is also true in that the City cannot mandate developers to mitigate outside the City's jurisdiction. Additionally, since noise is created from many sources in addition to traffic (air conditioners, playgrounds, commercial establishments, etc.), it is very difficult to assign relative responsibility for cumulative noise increases. Improved technologies in the production of automobiles, trucks and airplanes in the future may reduce noise in some areas. Therefore, it is speculative at best to determine relative responsibility and is legally infeasible to mitigate in jurisdictions outside the City. Based on the above discussions, no feasible mitigation is available that will reduce cumulative noise impacts to less than significant levels. A statement

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of overriding consideration will be required if the proposed Project is approved related to cumulative noise impacts.

5.11.9 Mitigation Measures

With the exception of cumulative noise impacts, Implementation of NMC Final EIR Mitigation Measures and Project Mitigation Measures would reduce potentially significant impacts to a less than significant level:

NMC Mitigation Measures

The following mitigation measures will minimize potential noise impacts at build-out and during construction of the proposed Project:

- NMC N-1 Prior to the issuance of grading permits for the planning areas in the Sphere of Influence area, an Acoustical Analysis Report shall be submitted to the City Engineer by the project developer. The report shall describe the cumulative effect of road noise on surrounding land uses and recommend mitigation measures, if necessary, to attenuate that noise. If necessary, the City shall establish a noise attenuation fee program that requires developers in the Sphere of Influence area to make a fair share contribution to noise mitigation along some of roads surrounding the Sphere of Influence. The City of Ontario shall evaluate the need for such a fee program and establish participation guidelines prior to the issuance of grading permits.
- NMC N-2 Prior to issuance of grading permits for the planning areas in the Sphere of Influence area, an Acoustical Analysis Report shall be submitted to the City Engineer by the project developer. The Report shall describe in detail the interior and exterior noise levels for residential uses on the site and the specific design and mitigation features to ensure compliance with that City's noise criteria of 65 dBA CNEL for outdoor living areas and 45 dBA CNEL in habitable rooms.
- NMC N-3 Prior to the issuance of building permits for planning areas in the Sphere of Influence area, the required location of noise barriers on the project site shall be detailed in the Acoustical Analysis Report. The Report shall specify the height, location, and types of barriers capable of achieving the desired mitigation affect.
- NMC N-4 Prior to the issuance of grading permits for the planning areas in the Sphere of Influence area, the Acoustical Analysis Report shall identify those residential lots that may require

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mechanical ventilation to achieve interior noise standards. When that operable doors and windows are open for homes facing the roadways, the interior 45 dBA CNEL interior noise limit for these units may be exceeded. Therefore, a "windows closed" condition may be required for these units. Any proposed mechanical ventilation must meet the requirements of the Uniform Building Code (UBC) standard. It should be noted that the windows facing some roadways may be able to be opened, but the homeowners would have the option to close the windows and still obtain adequate ventilation through the use of a mechanical ventilation system. This mechanical ventilation shall supply two air changes per hour to each habitable room, including 20 percent (one-fifth) fresh make-up air obtained directly from the outdoors. The fresh air inlet duct shall be of sound attenuating construction and shall consist of a minimum of ten feet of straight or curved duct or six feet plus one sharp 90 degree bend. The City Engineer shall ensure that the Acoustical Analysis Report identifies any requirements for mechanical ventilation for individual onsite residential units.

- NMC N-5 All prospective owners and occupants of residential units on the project site shall be formally notified prior to purchase, lease or rental, that certain units (without windows and doors closed), and outdoor areas could be subject to noise levels above City standards for residential uses. Such notification shall be in language approved by the City Planning Department, and shall be formalized in written Covenants, Conditions and Restrictions (CC&R) recorded on the title of each residential lot in the project. In addition, each advertisement, solicitation and sales brochure or other literature regarding the project shall contain the approved notification language.
- NMC N-6 Construction on the Sphere of Influence site shall be limited to the hours of 7:00 AM to 7:00PM Monday through Saturday, and shall be prohibited on Sundays and Federal holidays.
- NMC N-7 All project construction vehicles or equipment, fixed or mobile, shall be equipped with properly operating and maintained mufflers.
- NMC N-8 Stockpiling and/or vehicle staging areas shall be located as far as practical from existing residential units on and off the proposed project site.
- NMC N-9 Whenever feasible, the noisiest construction operations should be scheduled to occur together to avoid continuing periods of the greatest annoyance.

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Project Mitigation Measures

- N-1 During all Project Site excavation and grading, the construction contractors shall equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers, consistent with manufacturers' standards. The construction contractor shall place all stationary construction equipment so that emitted noise is directed away from the noise sensitive receptors nearest the project site.
- N-2 The construction contractor shall locate equipment staging in areas that will create the greatest distance between construction-related noise sources and noise sensitive receptors nearest the project site during all project construction.
- N-3 The construction contractor shall limit all construction-related activities that would result in high noise levels according to the construction hours to be determined by City staff.
- N-4 The construction contractor shall limit haul truck deliveries to the same hours specified for construction equipment. To the extent feasible, haul routes shall not pass sensitive land uses or residential dwellings.
- N-5 Architectural plans shall be submitted to the City for an acoustical plan check prior to the issuance of building permits to assure that the proper windows and/or doors are upgraded for sound reduction and proper ventilation systems are incorporated in order to meet the interior noise level requirement.

5.11.10 Level of Significance After Mitigation

The noise analysis for the Project concludes that the unmitigated noise levels on many of the street segments for which residences are purposed will exceed the City's 65 dBA Leq limit for exterior areas. The streets identified as the principal sources of community noise are Schaefer Avenue, Edison Avenue, Haven Avenue, and Archibald Avenue. With the appropriate noise mitigation measures, both the exterior and interior noise levels will meet the City's 65 dBA Leq and 45 dBA Leq noise standards respectively and thus impacts will be less than significant after mitigation.

Construction noise is short-term and will not present any long-term impacts on the Project Site or surrounding area.

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As previously stated, no feasible mitigation is available that will reduce cumulative noise impacts to less than significant levels. A statement of overriding consideration will be required if the proposed Project is approved related to cumulative noise impacts.

5.12 POPULATION/HOUSING

The following analysis is based on data and projections from the Southern California Association of Governments, 2000 Federal census, and information from the following documents:

- New Model Colony Final Environmental Impact Report, City of Ontario, 1997.
- General Plan Housing Element, City of Ontario, adopted December 2001.
- The Avenue Specific Plan, JZMK, September 2006.

These documents are incorporated by reference.

5.12.1 Existing Conditions

Project Site

Approximately 15 housing units are currently located on the Project Site. The overall residential density on the Project Site is less than one unit for every thirty five acres. Existing land uses on the Project Site includes dairy production, cultivated crops, and utilities (Figure 3-3).

Regional Trends

Despite the continuous increase of permit activities in the past three years, housing construction continued to lag behind population growth. For example, between 2000 and 2003, population in the region increased by almost 1 million. However, during the same period, just over 200,000 building permits were issued (SCAG, 2004).

The Southern California Association of Governments (SCAG) reports that the region's population has continued to grow at faster rates than the rest of the State and the nation since 1998. For example, in 2003, the population growth rate of 1.7 percent in the region continued to be significantly higher than that of the rest of the State (1.3 percent) as well as the nation (just below 1%). San Bernardino County's growth rate has exceeded that of the SCAG region (SCAG, 2004).

According to the NMC Final EIR, SCAG forecasts 38,623 households will reside in the NMC by 2020 (Envicom 1997). Based on SCAG estimates of households and a five percent vacancy rate, the NMC

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Final EIR projects a total of 40,554 housing units within the NMC by 2020. The Avenue Specific Plan component of the Project represents approximately six percent (6%) of these households.

The NMC General Plan Amendment was found to comply with SCAG's Draft Baseline Forecast for total units provided, and with the implementation of NMC Final EIR mitigation measure H-1, will meet the City's qualified housing need.

Housing Element

SPHERE OF INFLUENCE GENERAL PLAN AMENDMENT

Affordable Housing Development

GOAL 3D Provision of housing for all economic segments of the present and future community, including the City's fair share of the regional housing need.

OBJECTIVE 3.6 Minimize governmental constraints on the provision of affordable housing.

POLICY 3.6.1 Designate sufficient vacant land with maximum densities high enough to facilitate the development of housing affordable to lower-income households. (I-16)

OBJECTIVE 3.7 Offset the impacts of market-rate housing and nonresidential development on the supply of affordable housing.

POLICY 3.7.1 Require each Specific Plan to ensure the provision of an adequate number of units affordable to very low, low, and moderate income households within its Specific Plan area. (I-7) 3.7.2 Allocate a portion of the City's regional housing need target to the Sphere of Influence, as appropriate. Require that specific plan areas implement housing programs that comply with the State of California Housing and Community Development requirements, and ensure compliance and attainment of the regional housing need assessment "affordable" unit target. (I-7)

The City's Housing Element was updated in 2001, and contains policies and objectives designed to help the City provide housing to all socioeconomic segments of the population.

5.12.2 Issues Identified During Public Scoping Meeting

During the public scoping meeting, the public did not raise any concerns or questions regarding population or housing.

5.12.3 Issues Identified in NOP or Amended NOP Comment Letters

No comments were received in response to the NOP or Amended NOP relative to population or housing.

5.12.4 Thresholds of Significance

The City has not established local CEQA significance thresholds, however, Appendix G of the State CEQA Guidelines and the City's Initial Study checklist indicates potentially significantly impacts to population or housing impacts may result if a project:

- Induces substantial population growth into an area, either directly or indirectly;
- Displaces substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere; or
- Displaces substantial numbers of existing people, necessitating the construction of replacement housing elsewhere.

5.12.5 Project Compliance with Existing Regulations

State law mandates local communities to provide for their portion of the regional demand for housing units. The number of units to be accommodated, or a local jurisdiction's portion of the regional demand, is determined by Southern California Association of Governments (SCAG). If the number of units or number of units affordable to distinct income groups are not met or justified and the existing conditions are exacerbated by the project, typically, such project would be considered regionally significant.

The NMC General Plan Housing Element provides for adequate housing to support the present and future community within ownership and rental markets. The Project development will meet and comply with all applicable Housing policies of the NMC General Plan. These policies address: household and job growth, accommodation of various incomes and lifestyles, livable neighborhoods, housing needs for all economic segments and for groups with special needs (NMC General Plan Policies 3.1.1– 3.8.2).

5.12.6 Design Considerations

The Project includes approximately 2,206 single-family dwelling units, 120 multi-family dwelling units, two school sites, 21.3 acres of parks, 2 commercial/retail sites totalling 174,000 square feet, a recreation center, and extensive trails, and landscaped edges. All of the Project's structures will be designed to meet or exceed City standards for construction and design safety. The project will meet NMC General Plan policies for housing through implementation of The Avenue Specific Plan component of the Project.

5.12.7 Project Impacts

Impacts are discussed for each of the thresholds of significance identified in Section 5.12.2.

Population Growth

Implementation of the Project will result in the construction of 2,326 new dwelling units and an associated increase in population as discussed below.

New Housing Resulting from the Project

According to the NMC Final EIR, SCAG's household forecast for the NMC area is 40,544 households by 2020. If it is assumed that each household equates to a dwelling unit, SCAG projects a total of 40,544 dwelling units in the NMC by 2020 (Envicom, 1997, pg. 5.3-3). At build-out, the NMC is projected to have 31,188 dwelling units (Ontario, 1999) of which The Avenue Specific Plan component of the proposed Project, represents approximately eight percent (8%) of these dwelling units. The Avenue Specific Plan and surrounding specific plans currently being processed by the City will permit an estimated 11,650 housing units (Ontario, 2005a), which represents approximately 29% of the total dwelling units analyzed in the NMC Final EIR.

The overall residential density for the Project would be 4.2 dwelling units per gross acre (2,326 units/566 gross acres), which is less than the overall density of 4.6 dwelling units per gross acres approved for the NMC (Ontario, 1999).

With respect to impacts to housing, the NMC Final EIR states that since the number of dwelling units anticipated in the NMC are less than the number of dwelling in the SCAG forecast, housing growth is within the NMC is not considered significant (Envicom, 1997, pg. 5.3-3). Since the housing proposed by

the Project is a portion of the housing analyzed in the NMC Final EIR, impacts to housing resulting from implementation of the Project are less than significant.

Population Growth Associated with New Housing Resulting from the Project

Implementation of the proposed Project will result in the construction of approximately 2,326 new dwelling units (2,206 single-family and 120 multi-family) and a projected population increase of 9,219 persons (based on a household size of 3.997 persons per single-family unit and 3.347 persons per multi-family unit). This population increase is the result of land uses that are consistent with those identified for the Project vicinity by the NMC General Plan and which we analyzed in the NMC Final EIR. With respect to impacts to population, the NMC Final EIR stated that the projected total population of the NMC is below SCAG population projections, therefore the impacts to population growth is not considered significant (Envicom, 1997, pg. 5.3-3).

Displacement of Substantial Numbers of Existing Housing or People

As stated in Section 5.12.1, there are approximately 15 housing structures located in the Project vicinity which does not constitute a substantial number houses or provide homes to a substantial number of people. Implementation of the proposed Project will result in the demolition of the existing dwelling units and the construction of 2,326 new dwelling units. The proposed Project will not result in a significant impact relative to displacement of existing housing or people.

General Plan Housing Policy

NMC General Plan Goal 3D, Objective 3.7, Policy 3.7.1 requires each specific plan in the NMC to ensure the provision of an adequate number of units affordable to very low, low, and moderate income households. As part of the Project, the City will enter into Development Agreements with the developers in the Project to ensure the provision of affordable housing units or the payment of in lieu fees pursuant to the City's in lieu fee program.

5.12.8 Cumulative Impacts

The proposed Project includes residential facilities that are expected to induce or incrementally accelerate the development of residential projects in the area. These projects, when considered as a whole, will create a cumulatively considerable impact on population and housing in the area (i.e., 9,219 residents and 2,326 units). However, the City has been expecting this growth for many years and the additional

facilities included in the proposed Project will help accommodate the City's regional housing needs allocation and improving the City's jobs/housing balance; therefore, the residential population growth from the Project is not considered cumulatively significant.

5.12.9 Mitigation Measures

NMC Mitigation Measure

The NMC Mitigation Measure relative to housing identifies a City obligation.

Project Mitigation Measures

The proposed Project is not expected to result in any significant impacts to housing or population, therefore no Project specific mitigation measures are proposed.

5.12.10 Level of Significance After Mitigation

Potential housing and population impacts associated with the Project are not expected to be significant over the short- or long-term based on local and SCAG demographic projections.

5.13 PUBLIC SERVICES

This section describes the existing public services available at the Project Site and vicinity provides an assessment of potential impacts to those services as they relate to the Project. The public services evaluated include schools, police and fire protection, and libraries. The current public services described are based on the following documents:

- NMC Final EIR, City of Ontario, October 1997.
- The Avenue Specific Plan, JZMK Partners, September 2006.

These documents are incorporated by reference.

5.13.1 Existing Conditions

Schools

The NMC Final EIR evaluated potential impacts caused by an increased demand for educational facilities that would result from development of the NMC. The NMC Final EIR stated that build-out of the NMC would generate 13,570 elementary school students and 4,818 middle school students within the Chino Unified School District and Mountain View School District, and 6,214 high school students within the

Chaffey Joint Union High School District. Under this consideration, the NMC Final EIR indicates that the Chino Unified School District would need to establish 11.7 elementary schools, 2.3 middle schools, and 1.9 high schools. The Mountain View School District would need to establish 7.8 elementary schools, and 2.8 middle schools. The Chaffey Joint Union High School District would need to establish one high school. The Chaffey Community College District also serves the City of Ontario, including the NMC, from a main campus in Rancho Cucamonga and two satellite campuses located within the City. The NMC Final EIR referenced the Chaffey Community College District's desire to establish a facility within the NMC.

The Project Site is located within the Mountain View School District (Kindergarten through the Eighth Grade) and the Chaffey Joint Union High School District (Grades 9 through 12). Both of these districts are currently at capacity enrollment at each school facility. Table 5.13-1 lists each school facility that would serve the Project Site and the corresponding enrollment figures.

The proposed Project will induce population growth in the area and the construction of new elementary, middle, and high schools will be required to serve the Project, as stated in the NMC General Plan (Page4-31). The Avenue Specific Plan component of the Project includes a middle school site and an elementary school site.

Table 5.13-1 Existing School Facilities

School Facility	School District	Location	Planned Student Capacity	Student Enrollment as of October 2005
Creek View Elementary (Grades K-5)	Mountain View	3742 Lytle Creek North Loop	750	778
Mountain View Elementary (Grades K-5)	Mountain View	3947 S. Turner Ave.	550	628
Ranch View Elementary (Grades K-5)	Mountain View	3300 Old Archibald Rd.	750	811
Grace Yokley Middle School (Grades 6-8)	Mountain View	2947 S. Turner Ave.	1,100	1,300
Colony High School (Grades 9-12)	Chaffey Joint Union H.S.	3850 E. Riverside Dr.	2,500	2,300

Source: Mountain View School District and Chaffey Joint Union High School District, 2006 and NMC Final EIR, 1997.

Police

The NMC Final EIR evaluated potential impacts caused by the increased demand for police protection services that would result from the development of the NMC. The NMC Final EIR stated that build-out of the NMC would result in the need for an additional 163 sworn police officers and an additional 102 civilian personnel.

Police protection to the Project Site is provided by the City of Ontario Police Department (OPD). The police department main station is located approximately two miles to the north of the Project Site at 2500 South Archibald Avenue. The services provided by the OPD include emergency and non-emergency police response, routine police patrol, traffic violation enforcement, traffic accident investigation, animal control, and parking code enforcement.

According to Detective Patrick Sanford of the OPD:

The OPD receives all calls at the main station. Chief Jim Doyle commands the OPD. The OPD has a mutual aid agreement with all adjacent cities as a primary resource and the County of San Bernardino Sheriff's Department as a secondary resource.

The mission of the OPD is to protect life and property, solve neighborhood problems, and enhance the quality of life in the community. This is accomplished by providing superior police services while fostering successful community partnerships. These services are provided in a positive, empathetic, and professional manner, which reflects sensitivity to the needs of both the

community and the individual. The dedicated full-time staff of 229 sworn law enforcement personnel and 116 non-sworn civilian support personnel is committed to the accomplishment of OPD's mission.

Response time is the period of time between when a call is received by a dispatcher and the arrival of a patrol officer. The response time varies depending upon the nature of the call.

Typical calls are prioritized based upon the urgency of the incident. The average emergency call response time for the officer assigned to the beat of the Project Site is less than five minutes.

OPD currently has a ratio of 1.34 officers per 1,000 residents, and a civilian personnel ratio of 0.68 employees per 1,000 residents. No reduction in the current level of service is expected.

Currently, OPD is equipped with marked patrol cars, marked motorcycles, K-9 units, detective units, undercover units, two helicopters, bicycle units, a SWAT van, a hostage negotiation van, a command armored rescue vehicle, crime prevention vans and a mounted posse. The OPD has divided the City into 8 Sectors each of which has a minimum of one beat up to a maximum of four beats. Each beat has a minimum of one vehicle and each Sector has a Community Oriented Policing Services (COPS) Officer assigned. A minimum of 13 officers are staffed per shift. The Project Site is located in Police Sector 7.

Fire

The Ontario Fire Department (OFT) currently provides fire and emergency medical services (EMS) from eight existing fire stations. The response capability consists of eight paramedic engine companies, two truck (ladder) companies, and six Battalion Supervisors, totaling 42 emergency personnel on duty 24 hours per day, 7 days a week. The OFD has a goal to achieve an average response time to all emergency calls within eight minutes. Table 5.13-2 provides a summary of the number of personnel and type of equipment for each station.

Table 5.13-2 City of Ontario Fire Station Information

Fire Station: 1		Address: 425 E. "B" Street x Sultana Avenue			
UNIT	MANNING	EMT-P	EMT-1	24 HR	
ME-131	4	2	2	YES	
T-131	4	-	4	YES	
B-1815	1	-	-	YES	
I-1850	1	-	-	YES	
EOD-131	(2) *	-	-	YES	
U-131	(1) *	-	-	YES	
Fire Station: 2		Address: 544 W. Francis Street x San Antonio Avenue			
UNIT	MANNING	EMT-P	EMT-1	24 HR	
ME-132	4	2	2	YES	

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OES-229	(4) *	-	-	YES
Fire Station: 3	Address: 1408 E. Francis Street x Parco Avenue			
UNIT	MANNING	EMT-P	EMT-1	24 HR
ME-133	4	2	2	YES
WT-133	(2) *	-	-	YES
T-133R	(4)	-	-	RESERVE
	(4)	-		RESERVE
Fire Station: 4	Address: 1005 N. Mountain Avenue x 4th Street			
UNIT	MANNING	EMT-P	EMT-1	24 HR
ME-134	4	2	2	YES
134-R	(4)	-	-	RESERVE
Fire Station: 5	Address: 1530 E. 4th Street x I-10 Freeway			
UNIT	MANNING	EMT-P	EMT-1	24 HR
ME-135	4	2	2	YES
135-R	(4)	-	-	RESERVE
E-135R	(4)	-		RESERVE
Fire Station: 6	Address: 2931 E. Philadelphia Street x Turner Avenue			
UNIT	MANNING	EMT-P	EMT-1	24 HR
ME-136	4	2	2	YES
B-1825	1	-	-	YES
BE-136	(4) *	-	-	YES
E-136R	(4)	-	-	RESERVE
Fire Station: 7	Address: 4925 E. Vanderbilt Street x Auto Center Drive			
UNIT	MANNING	EMT-P	EMT-1	24 HR
ME-137	4	2	2	YES
Fire Station: 8	Address: 3429 E. Shelby Avenue x Lotus Avenue			
UNIT	MANNING	EMT-P	EMT-1	24 HR
ME-138	4	2	2	YES
T-138	4	-	4	YES
HR-138	(2) *	-	-	YES
U-138	(1) *	-	-	YES
HM-501	(2) *	-	-	YES
Legend				
ME = Medic Fire Engine				
T = Fire Truck				
B = Battalion Vehicle				
I = Investigation Vehicle				
EOD = Explosive Ordnance Disposal Vehicle				
U = Utility Vehicle				
OES = State of California Office of Emergency Response Vehicle				
WT = Water Tender				
E = Engine Reserve				
R = Reserve Engine				
BE = Brush Engine				
HR = Heavy Rescue Vehicle				
HM = Hazardous Materials Vehicle				
* = Indicates cross-staffed with on-duty personnel				
() = Indicates unit personnel capacity				

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The OFD serves an area of 50 square miles and provides Emergency Medical Dispatch (EMD), Basic Life Support/AED (EMT-1), and Advanced Life Support (EMT-P) services. The OFD maintains a mutual-aid agreement with the Operation Area and State of California and receives first alarm automatic-aid from the following fire departments:

- Chino Valley Fire Protection District – Fire Stations 63 and 65
- Montclair Fire Department – Fire Stations 151 and 152
- Ontario Airport Fire Department
- Rancho Cucamonga Fire Department – Fire Stations 172 and 174
- San Bernardino County Fire Department – Central Valley Battalion Fire Stations 74 and 72
- Upland Fire Department – Fire Station 161

The closest fire station to the Project Site is Fire Station No. 6, located at 2931 E. Philadelphia Street, approximately two miles northeast of the Project Site. The current response time from this station will exceed the Fire Department Emergency Response Guidelines. The OFD current response time from Station No. 6 to the proposed Project Site exceeds current emergency response goals. To be consistent with the City's General Plan (1992), fire protection services planned for the NMC will be subject to this goal.

A new station is planned to be located near the intersection of Mill Creek and Edison Avenues, east of the project site. A station is also proposed for the west side of Archibald Avenue between Edison and Eucalyptus Avenues in the Parkside Specific Plan.

Library

The NMC Final EIR evaluated potential impacts due to the increased demand for library services resulting from development of the NMC. The NMC Final EIR stated that build-out of the NMC would require additional branch libraries and/or expanding the size of the existing branch libraries.

The City provides library services through the Main Library located in the City Civic Center at 215 East "C" Street. This Library was recently renovated and expanded from 44,000 square feet (SF) to 57,000 SF to serve the entire City, including the NMC. The Library opened the renovated facility on January 17, 2006 and it is currently open Sunday from 1pm to 4pm, Monday through Thursday from 10am to 9pm, and Friday and Saturday from 10am to 6pm.

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The City also operates a branch library, located in the NMC at Colony High School, at 3850 East Riverside Drive. The Colony High School Branch Library is approximately 14,000 SF in size and is operated as a joint use facility between the Chaffey Joint Union High School District and the City. This branch library is a permanent facility and is open to the public Monday through Thursday from 12pm to 8 pm, and Friday and Saturday from 10am to 6 pm.

Both libraries are open to all members of the public. City residency is not required to use the library or obtain a library card.

5.13.2 Issues Identified During Public Scoping Meeting

The Project's impacts on fire and police protection services were identified as concerns during the public scoping meeting. Specific questions were raised regarding the nearest fire facility would be located. Nearby residents also expressed concerns regarding the development of school facilities in and near the Project Site. Public comments indicated that the Colony High School is already overcrowded. Residents exchanged past experiences where developers have not provided promised funding for schools. Residents asked if there would be any guarantee that new schools would be built.

5.13.3 Issues Identified in NOP and Amended NOP Comment Letters

One letter was received in regards to public services. On May 24, 2006, the Chaffey Joint Union High School District responded to the Project NOP; the letter is contained in Appendix A of this EIR. The letter stated that the Chaffey Joint Union High School District believes developer fees are not adequate to provide facilities for the students generated by the proposed Project combined with other specific plans within the NMC. The Chaffey Joint Union High School District requested that "impacts to schools be fully incorporated in the Draft and Final Environmental Impact Report and that mitigation measures be provided which will reduce these impacts to an insignificant level."

5.13.4 Thresholds of Significance

According to Appendix G of the CEQA Guidelines and the City's Initial Study form, impacts related to public services may be considered potentially significant if the proposed Project would:

- Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities need for new or physically altered governmental facilities, the

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construction of which could cause significant environmental impact, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

- ❖ Fire Protection
- ❖ Police Protection
- ❖ Schools
- ❖ Parks
- ❖ Other Public Facilities

Impacts to parks and recreation are discussed in Section 5.14 of this EIR.

5.13.5 Project Compliance with Existing Regulations

Police Protection

The NMC General Plan Policy 9.2.1 requires specific plans to incorporate defensible space designs to “help ensure maximum visibility and security for entrances, pathways, and corridors, as well as open space (both public and private) and parking lots/structures.” Policy 10.5 of the City’s General Plan (1992), states that the City will “continue Police Department review of proposed new development.” All tracts in future phases of the Project will be designed to meet these General Plan policies and specific plan design guidelines.

Fire Services

The NMC General Plan states that no development will be permitted if there is an inadequate water supply that would increase the Fire Department Emergency Response Guideline, or limit fire fighting services. In accordance, the Project will be required to provide or participate in the funding and construction of the backbone water system to serve the Project Site. The Water Master Plan for the City also addresses the adequacy of fire flows/pressure. Design of the water systems within the NMC will meet the intent of the Water Master Plan.

Schools

The NMC General Plan Policy 8.1.2 requires specific plans to accommodate sufficient schools to meet School District criteria. The School Districts identified in the NMC General Plan include Chino Unified, Mountain View and Chaffey Joint Union. The Project will implement this Policy by providing two school

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sites to serve The Project Site community and surrounding area. A ten acre elementary school is located west of Archibald Avenue in Planning Area 5, in the western portion of the Project Site and adjacent to the Recreation Park. A 20 acre middle school site is located on the west side of Turner Avenue, south of Schaefer Avenue in the central portion of the Project Site in Planning Areas 6B and 9B. Figure 3.6 illustrates the location of each school site.

The Project developers will be required to pay school fees in accordance with State law to the extent that the school sites do not fully meet School District criteria. Pursuant to State law (SB 50 and Proposition 1A), the Project will be required to pay school impact fees. In general, school impact fees are calculated for each school district and apply to residential, commercial, and industrial development within a school district.

5.13.6 Design Considerations

The Project complies with NMC General Plan Policy 9.2.1 through the Design Guidelines set forth in Section 6.5 of the Avenue Specific Plan. As previously discussed, the Project includes two school sites in compliance with NMC General Plan Policy 5.13.6. The City's General Plan (1992) Policy 10.5 will be met through the City's CEQA public review process.

5.13.7 Project Impacts

Schools

The proposed Project would convert the Project Site to urban uses that would result in the development of 2,326 dwelling units, which would generate additional school age children. Table 5.13-3 below provides an estimate of the student population that would be generated from build-out of the 2,326 residential units on the Project Site.

The potential increase in enrollment of 2,744 students in Table 5.13-3 identifies a conservative enrollment that would be generated by the proposed Project. In addition, the proposed Project includes two school sites, Planning Area 5 for a ten acre elementary school and Planning Areas 6B and 9B for a 20 acre middle school site that will be available for voluntary acquisition by the Mountain View School District.

Currently, school facilities within the Mountain View School District and the Chaffey Joint Union High School District servicing the proposed Project Site are near or over capacity. However, the State-

Table 5.13-3 Estimated Student Generation

School Grades	Generation Factor	Students
Elementary and Middle School (K-8)	0.64 students/DU (single-family) (0.64 students X 2,326 DUs = 1,488 students) 0.27 students/DU (multi-family) (0.27 students X 2,326 DUs = 628 students)	1,488 628
High School (9-12)	0.27 students/DU (0.27 students X 2,326 DUs = 628 students)	628
Total (K-12)		2,744

DU = dwelling unit

Source: Generation factors obtained from Mountain View School District and Chaffey Joint Union High School District, 2006

mandated developer impact fees are required by CEQA regardless of the enrollment capacity conditions of the affected schools.

Pursuant to State law (SB 50 and Proposition 1A), the Project developers will be required to pay school impact fees. In general, the school impact fees are calculated for each school district and apply to residential, commercial and industrial development within a school district. The Mountain View School District currently assesses \$3.57 per square foot (SF) for residential and \$0.36 for commercial. The Chaffey Joint Union School District currently assesses \$1.02 per SF for both residential and commercial. Under State law, this is considered adequate mitigation for school impacts caused by development.

Mountain View School District recently submitted plans for six elementary and three middle school sites for consideration to the State. Even though none of the sites are in the vicinity of the proposed Project, construction of additional school facilities within the Mountain View School District would allow for greater capacity at school facilities serving the Project Site.

Police

As discussed in Section 5.13-1, the existing service standard is 1.34 sworn officers per 1,000 residents. In the absence of additional police facilities, the proposed Project would increase the area served by the current staff of the OPD and increase service demands. The OPD has indicated that, upon Project implementation, it is policy to maintain an adequate level of service throughout the City. The proposed Project would increase the local population by 9,219 residents. This would result in the need for an additional 12 officers.

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The City's development review process and building permit plan check processes include review by OPD to ensure incorporation of defensible space concepts in site design and constructions. Property taxes and City fees support the general fund to help offset the cost of additional personnel. Since response time for police service is not based on proximity to the station and since the new main station is close to the Project Site, no adverse physical impacts associated with the need for, or provision of, new or physically altered police facilities will result from the Project. Therefore, impacts to police protection are considered less than significant.

Fire

Development of the proposed Project would result in the conversion of the existing rural setting of the Project Site to urban uses. This could result in an increased demand for fire suppression services. According to the OFD, current staffing and resources are adequate to serve the Project Site. However, since the Project Site would be developed with urban uses, there could be an increased demand for fire-related water supply.

The OFD currently provides fire and Emergency Medical Services for the Project Site from Fire Station No. 6. This station is located northeast of the project site, at 2931 E. Philadelphia Street. The current response time from this station will exceed the current Fire Department Emergency Response Guidelines.

Fire Station No. 9 is to be built approximately a mile and a half of the Project Site on the west side of Archibald Avenue within the proposed Parkside Specific Plan. The payment of Development Impact Fees from the Project will help fund construction of this station. All potential significant physical impacts associated with construction of this station are addressed in the Parkside specific Plan EIR (SCH# 2004011008). When completed response time from Station No. 9 will be within the current Fire Department Emergency Response Guideline and, thus, impact relative to fire services is reduced to a less than significant level. The quantity of water required for fire protection (i.e., fire flows) varies and is dependent upon factors that are specific to each particular building, such as the floor area, type of construction, expected occupancy, type of activities conducted within the building and the distance to adjacent buildings. As part of the entitlement process established (including localized pipe upgrades or connections that might be required to connect new buildings to the system), adequate number of fire hydrants would be provided in the appropriate locations, and circulation and design features would allow adequate emergency vehicle access in compliance with the Ontario Municipal Code. Therefore, impacts to fire protection services would be less than significant and no mitigation is required.

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Library

The City has adopted a development impact fee program for library facilities within the entire NMC, which includes the Project Site. The development impact fee for NMC Library Facilities and the Collection Development Impact Fees are currently \$697 per dwelling unit for single-family detached units and \$583 per dwelling unit for multiple-family units. However, these fees routinely increase as the demand for new facilities continues to rise. The collection of impact fees are anticipated to adequately fund the construction of a new library facility within the NMC to accommodate the total increased population upon build-out of the NMC. Therefore, impacts to library services would be less than significant.

5.13.8 Cumulative Impacts

Schools

Implementation of the proposed Project combined with other residential development in the NMC would result in substantial additional demand on local school districts. The students that could be generated from the proposed Project would contribute to an increase in students in the Mountain View School District and Chaffey Joint Union High School District that would likely require additional facilities in order to accommodate demand. The proposed Project, along with other foreseeable development, would be required to bear its fair share of the cost of providing additional school services through payment of statutory school fees. Per Government Code Section 65996, developer impact fees are the exclusive method for mitigating impacts on school facilities; thus any potential cumulative impacts would be less than significant.

Police Protection

The OPD has anticipated development in the NMC and considered the Project, in conjunction with other specific plans in the area, in its planning processes. Additionally, the Project's contribution to cumulative impacts with respect to police facilities would be less than significant since the Project proponents would be subject to the payment of development fees. Therefore no mitigation is required. Further, no mitigation measures were identified in the NMC Final EIR for police protection services.

Fire Protection

Fire protection services in the City are adequate to serve existing development. The OFD has anticipated development in the NMC and considered the Project, in conjunction with other specific plans in the area, in its planning, staffing, and budgeting processes. Additionally, the Project's contribution to cumulative

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impacts would be less than significant since the Project proponents and all other new development into the NMC would be subject to the payment of development fees. Therefore no mitigation is required. Further, no mitigation measures were identified in the NMC Final EIR for fire protection services.

Library

Implementation of the proposed Project in addition to all other related projects in the vicinity would increase the use of City library facilities. However, the requirements for additional library facilities have been planned for. The Project's contribution to cumulative impacts would be less than significant since the Project proponents and all other new development in the NMC would be subject to the payment of development impact fees. Currently library and facilities and collection development fees are \$697 per single-family detached dwelling unit and \$583 per multiple family dwelling unit.

5.13.9 Mitigation Measures

NMC Mitigation Measures

The NMC Final EIR does not identify any mitigation measures relative to public services.

Project Mitigation Measures

Implementation of the following Project Mitigation Measures would reduce potentially significant impacts to a less than significant level.

- PS-1 To reduce fire hazards, wood-shingled and shake-shingled roofs are prohibited.
- PS-2 To reduce fire hazards, fire hydrant locations and water main sizes shall meet standards established by Ontario Fire Department and reviewed and implemented by the Engineering Department.
- PS-3 To reduce fire hazards when water is provided to the site, adequate fire flow pressure shall be provided for residential areas and non-residential projects in accordance with currently adopted standards.
- PS-4 To reduce fire hazards, adequate water supply shall be provided as approved by the Ontario Fire Department prior to the framing stages of construction.
- PS-5 To reduce fire hazards, houses located on cul-de-sacs longer than 300 feet shall be constructed with residential fire sprinklers.

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- PS-6 To reduce fire hazards, access roadways designed in accordance with Ontario Fire Department standard to within 150' of all structures, shall be provided prior to the framing stages of construction. This access is to be maintained in an unobstructed manner throughout construction.
- PS-7 A fire station located within the Parkside Specific Plan must be operational prior to the issuance of any certificates of occupancy in The Avenue Specific Plan.
- PS-8 The developers/builders shall pay library, police, and fire service development impact fees.
- PS-9 The developers/builders shall pay school fees or otherwise, in lieu of fees, meet project obligations to schools, as approved by Mountain View and Chaffey Joint Union High School Districts.

5.13.10 Level of Significance After Mitigation

With implementation of Project Mitigation Measure PS-1 through PS-9, the proposed Project would result in less than significant impacts related to public services.

5.14 RECREATION

Information in this section is based upon information obtained from the following sources:

- NMC Final EIR, City of Ontario, October 1997
- NMC General Plan, City of Ontario, January 1998
- New Model Colony Parks, Recreation, and Biological Resources Implementation Program, Final Hearing Draft, City of Ontario, September 1999

These documents are incorporated by reference.

5.14.1 Existing Conditions

There are no parks or recreational facilities currently on the Project Site. The properties within the Project Site are not available for public use as open space.

The City Recreation and Community Services Department (RCSD) provide opportunities for year-round public recreational services throughout the City in addition to an array of educational and cultural activities. RCSD employs a staff of 25 full-time and 150 part-time employees providing services at community centers, parks, and schools throughout the City. RCSD operates four (4) community centers, a senior center, youth sports, a golf course, several community parks, and other recreational amenities (Ontario, 2006a).

In addition to the recreational opportunities at City-owned parks and special use facilities, City residents have limited access to use of school facilities for recreational activities and sports leagues through shared use agreements with the school districts. Numerous private recreational opportunities including: small amusement parks, sports clubs, and other facilities are located within the City and surrounding area.

There are a number of large regional parks within driving distance of the Project Site, including the Prado Regional Park, Cucamonga-Guasti Regional Park, and Glen Helen Regional Park operated by San Bernardino County Regional Parks Division. The planned Colton Regional Park will also serve the area (San Bernardino County Regional Parks, 2006). The Louis Rubidoux Nature Center and the Rancho Jurupa Park, owned and operated by the Riverside County Parks District (Riverside County Parks, 2006) and the Chino Hills State Park are also in the vicinity of the Project Site. These regional parks provide recreational opportunities such as hiking, fishing, swimming, boating, and camping.

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NMC General Plan Park Policies

NMC General Plan policies call for a minimum amount of park space in the NMC to achieve a standard of five acres of parkland per thousand residents. The NMC General Plan defines parkland as a mix of mini, neighborhood, community, and “Village Green” facilities (Envicom, 1998. p 5-13). City park standards define mini parks as up to one acre in size, neighborhood parks as being five to ten acres in size, and community parks as being ten acres or larger (Envicom, 1998. p 5-1).

The “Village Green” designation in the NMC General Plan is intended to apply to large community-level park like facilities on the scale of San Francisco’s Golden Gate Park (Envicom, 1998. p 2-4). The NMC General Plan Land Use Plan does not identify any “Village Greens” within the Project Site.

5.14.2 Issues Identified During Public Scoping Meeting

During the public scoping meeting no concerns regarding recreation were identified by the members of the public that attended.

5.14.3 Issues identified in NOP or Amended NOP Comment letters

No comments were received regarding recreational facilities or activities.

5.14.4 Thresholds of Significance

The following criteria for establishing the significance of potential impacts on recreation was derived from the CEQA Guidelines (Appendix G) and the City’s Initial Study Checklist. Potentially significant impacts to recreation may occur if the Project:

- Increases the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated; or
- Includes recreational facilities or requires the construction or expansion of recreational facilities that have an adverse physical effect on the environment.

5.14.5 Project Compliance with Existing Regulations

NMC General Plan Policy 12.1.1 calls for the provision of a minimum of 509 acres of parkland consisting of a mix of park types and facilities to achieve a standard of five acres of parkland per 1,000 residents.

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The Project complies with this policy by the inclusion of 21 acres of park and recreation amenities and the payment of in lieu fees as discussed in Section 5.14.7.

The Project complies with NMC General Plan Policy 12.1.3, which requires all specific plans to incorporate a comprehensive and unified parks and recreation plan that:

- Identifies mini, neighborhood, and community park sites in accordance with the service standards and updated Parks and Bike Trail Master Plan criteria;
- Integrates neighborhood parks with Neighborhood Centers and schools;
- Links parks by pedestrian greenway and bike trail networks;
- Incorporates passive and active recreational uses as specified in the Parks and Bike Trail master Plan; and

Defines a park acquisition and improvement financing plan.

The Avenue Specific Plan component of the Project implements NMC General Plan Policy 12.1.3 through the inclusion of (i) a parks and open space component that integrates 21 acres of park and recreation amenities; and (ii) a Trails Master Plan that provides pedestrian and bicycle trails throughout the Project Site. Additionally, Project developers will pay the adopted in lieu park fee established by the City for the Project less any credit given by the City for the parks and trails network.

5.14.6 Design Considerations

The Avenue Specific Plan implements most of the requirements of General Plan Policies 12.1.1 and 12.1.3 by proposing parks, neighborhood edges, and bicycle/multi-use trails throughout the Project Site.

5.14.7 Project Impacts

Implementation of the Project will convert predominantly agricultural uses to urban land uses, including the development of 2,326 dwelling units. This change in land use will result in a significant increase in property density for the Project Site and create an increase in demand for parks and recreational facilities from the residents of these new dwelling units.

According to the NMC General Plan Final EIR, the minimum standard for parkland is 5 acres per 1,000 residents. The Project is expected to generate 2,326 housing units, of which 2,206 units will be single-family detached dwelling units and 120 units will be multi-family dwelling units. According to the City

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Development Code (Section 9-2.1515) the dwelling unit occupancy factors for determining park requirements are 3.997 for single-family detached dwelling units and 3.347 for multi-family dwelling units. The amount of parkland required for any subdivision is determined by multiplying the number of dwelling units in the subdivision for each housing type by the occupancy factor for each housing type by 0.005 (i.e., the ratio of the maximum park area standard of three acres per one thousand population). This is represented as follows with Project requirements presented in Table 5.14-1.

Table 5.14-1 Park Dedication Requirements

(Number of dwelling units) x (occupancy factor) x (0.005) = Area of park to be dedicated

Dwelling Unit Type	No. of Dwelling Units	Occupancy Factor	(0.005)	Area of Park to be Dedicated (Acres)
Project single family units	2,206	3.997	0.005	44.0
Project multi-family units	120	3.347	0.005	2.0
Total	2,326			46.0

As indicated above, the Project will require 46 acres of parkland.

The Avenue Specific Plan component of the Project provides for approximately 21 acres of park and recreation amenities, located in ten neighborhood parks that are evenly dispersed throughout the Project Site (Figure 5.14-1). A four acre recreational center is planned to serve the eastern portion of the Project Site, and a 1.5 acre park is planned to serve the western portion of the Project Site. A five-acre recreation park is located adjacent to the ten acre elementary school. Thirty acres of school sites provide additional open space and recreation opportunities, limited by school hours.

The nearest regional park is the Santa Ana River Wildlife Area and the Prado Regional Park to the south. Due to the proximity of the Project Site to these large recreational areas, they may get some use by the Project residents, but these regional facilities are designed to serve this region. Regional parks are also proposed as part of the NMC and will be built out over time to serve the region.

The 21 acres of parkland proposed by The Avenue Specific Plan component of the Project does not meet the standard of five acres per thousand residents; however, payment of in lieu park fees would be required to meet the standard of five acres of parkland per thousand residents. This is considered a potentially significant impact. The City currently collects three acres of parkland or in lieu fees from new residential subdivisions for every 1,000 residents in accordance with California Government Code Section 66477 (also known as the Quimby Act). Additional sources for the City to obtain parkland include alternative funding sources for adding park acreage and/or park improvements.

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Insert Figure 5.14-1 Parks and Open Space

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Such sources include general fund revenues, developer impact fees, State and Federal grants, user group contributions and school district joint use contributions. Other methods that the City pursues to supplement their current parkland include encouraging the development of private open space and recreational amenities beyond public park requirements, to be incorporated in large residential projects. With adherence to City policies and ordinances relative to parkland dedication and/or payment of in lieu fees, no significant impacts to parks and recreational facilities will occur with Project implementation.

5.14.8 Cumulative Impacts

As identified in the NMC Final EIR, the development of the NMC, of which this Project is a part, and the identified cumulative projects are expected to increase demand for parks and recreation facilities in the area (Envicom, 1997, p 5.12-20). By City policy, residential projects are required to provide parks and recreational facilities either through dedication of parkland or payment of in lieu fees to meet the future needs of area residents (Envicom, 1997, p 5.12-16). With this in consideration, it is anticipated that no cumulative park and recreation impacts would occur with Project implementation.

5.14.9 Mitigation Measures

NMC Mitigation Measures

The Public Services Section of the NMC Final EIR states parks and recreation-related policies contained in the NMC General Plan represent a variety of measures that balance the projected increase in population with the projected need for recreational facilities. Therefore, no mitigation measures were identified.

Project Mitigation Measures

Implementation of the following Project Mitigation Measure will reduce potentially significant impacts to recreation to a less than significant level.

- R-1 The developers/builders shall pay in lieu park fees to meet the standard of five acres of parkland per thousand residents.

5.14.10 Level of Significance After Mitigation

With implementation of Project Mitigation Measure R-1, the proposed Project would result in less than significant impacts related to parks and recreation.

5.15 TRANSPORTATION/CIRCULATION

The focus of the following discussion is related to the potential impacts associated with changes in the existing traffic patterns, level of service, air traffic patterns, emergency access, parking capacity, and alternative modes of transportation. Information in this section is based upon the following documents:

- NMC Final EIR, City of Ontario, 1997. This document is incorporated by reference.
- The Avenue Specific Plan, JZMK, September 2006
- The Avenue Specific Plan Traffic Impact Study, Urban Crossroads, September 22, 2006. This document is contained in Appendix I of the Technical Appendices.

The NMC Final EIR evaluated potential impacts to traffic that would result from build-out of the NMC, which included evaluations of the roadway infrastructure and levels of service within and in the vicinity of the NMC. The NMC Final EIR identified policies that would ultimately reduce potential traffic-related impacts below the level of significance. The NMC Final EIR based its analysis on Year 2015 General Plan land use interim build-out and regional Year 2015 development levels consistent with San Bernardino County's Comprehensive Transportation Plan (CTP). The CTP included a total of six Traffic Analysis Zones for the NMC.

Subsequent to the preparation of the NMC Final EIR, the City prepared a Transportation Implementation Plan (TIP) for the NMC in order to identify the transportation infrastructure needed for build-out of the NMC over an approximately 30-year period. The purpose of the TIP is to:

- Develop an Implementation Plan for the Transportation Element of the General Plan;
- To refine roadway construction phasing, developer responsible components and costs, funding mechanisms, and maintenance issues;
- To specify comprehensive strategies and requirements to guide the preparation of subarea specific plans;
- To identify interim facilities and improvements as developments occur;
- To create a secondary roadway plan, called a Transitional Roadway Plan, that identifies existing roads to be maintained for agricultural product transport or farm equipment routes, determines roadway specifications and markings that identify the roads as being used for agricultural

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vehicles, establishes criteria to determine when the road should transition from being predominately used for agricultural purposes to being used for urban purposes; and

- To create a Transportation Mobility Plan to improve the movement of pedestrians, bicycles, public transit, truck and automobile, freight and rail, within the NMC.

The Transitional Roadway Plan (TRP) contained in the TIP stated that the transition from the existing rural roadways to urban arterials will require several steps. Many of the roadway improvements will be implemented as frontage improvements, constructed in conjunction with proposed development projects. Other situations will require a roadway to be widened to provide additional travel lanes, but where no development is scheduled for the fronting properties, the City may need to actively pursue the widening through acquisition of right-of-way. A determination will have to be made on a case by-case basis as to whether the right-of-way can or should be acquired on one or both sides of the existing roadway. The TRP evaluated the Year 2015 as an interim horizon year.

The City prepared an Initial Study/Mitigated Negative Declaration in order to determine the level of environmental review necessary for implementation of the TIP (TIP IS/MND). The TIP IS/MND stated that with the recommended mitigation measures, all TIP project-related impacts could be reduced below the level of significance and that no new environmental impacts were identified beyond those identified in the NMC Final EIR. The TIP IS/MND further stated that site-specific analyses would occur as individual NMC subareas are developed. The Avenue Specific Plan Traffic Impact Study, which is the basis for the analysis in this section of the EIR, is the site specific traffic analysis for the Project Site referenced in the TIP IS/MND.

The Avenue Specific Plan Traffic Impact Study (TIS)

Previous traffic impact studies for the NMC have been prepared in conformance with the requirements of the San Bernardino County Congestion Management Program (CMP) and CEQA. The Avenue Specific Plan Traffic Impact Study (the TIS) is not intended to replace or supplement the CMP requirement, which was met through preparation of the *Ontario Sphere of Influence CMP-TIA* prepared in November 2000. Rather the CMP is referenced as a reminder of the CMP LOS requirement. The TIS is a focused study prepared to support the analysis contained in this EIR by evaluating and documenting traffic conditions for existing conditions and Interim Year (2015) conditions in order to verify/determine the traffic improvements needed for acceptable traffic operations at full build-out and occupancy of The Avenue Specific Plan component of the Project, while recognizing previously disclosed impacts associated with build-out of the NMC.

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The area evaluated in the TIS (the Study Area) was developed in collaboration with City staff and includes all of the key access routes to the regional highway system that will serve the Project. The Study Area and intersections selected for analysis are generally consistent with traffic studies prepared for the Countryside, Esperanza, West Haven, Parkside, Edenglen, and Planning Area 29 specific plans, hereinafter collectively referred to as the "Six Specific Plans." The rationale in selecting the Study Area was to include all key intersections along access routes to the regional system that will serve the Project. The TIS analyzed 35 intersections in the Study Area - 18 existing and 17 future intersections as identified in Table 5.15-1 and shown in Figure 5.15-1.

Table 5.15-1 TIS Study Area Intersections

Intersection	Existing	Future
Euclid Avenue (NS) at: <ul style="list-style-type: none"> Edison Avenue (EW) 	✓	
Grove Avenue (NS) at: <ul style="list-style-type: none"> Edison Avenue (EW) 	✓	
Vineyard Avenue (NS) at: <ul style="list-style-type: none"> SR-60 Freeway Westbound Ramps (EW) SR-60 Freeway Eastbound Ramps (EW) Walnut Street (EW) Riverside Drive (EW) 	✓ ✓ ✓ ✓	
Carpenter Avenue (NS) at: <ul style="list-style-type: none"> Schaefer Avenue (EW) Edison Avenue (EW) 		✓ ✓
Hellman Avenue (NS) at: <ul style="list-style-type: none"> Schaefer Avenue (EW) Edison Avenue (EW) 		✓ ✓
Archibald Avenue (NS) at: <ul style="list-style-type: none"> SR-60 Freeway Westbound Ramps (EW) SR-60 Freeway Eastbound Ramps (EW) Riverside Drive (EW) Chino Avenue (EW) Schaefer Avenue (EW) The Avenue (EW) Edison Avenue (EW) Merrill Avenue (EW) Limonite Avenue (Cloverdale Road) (EW) 	✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓	✓

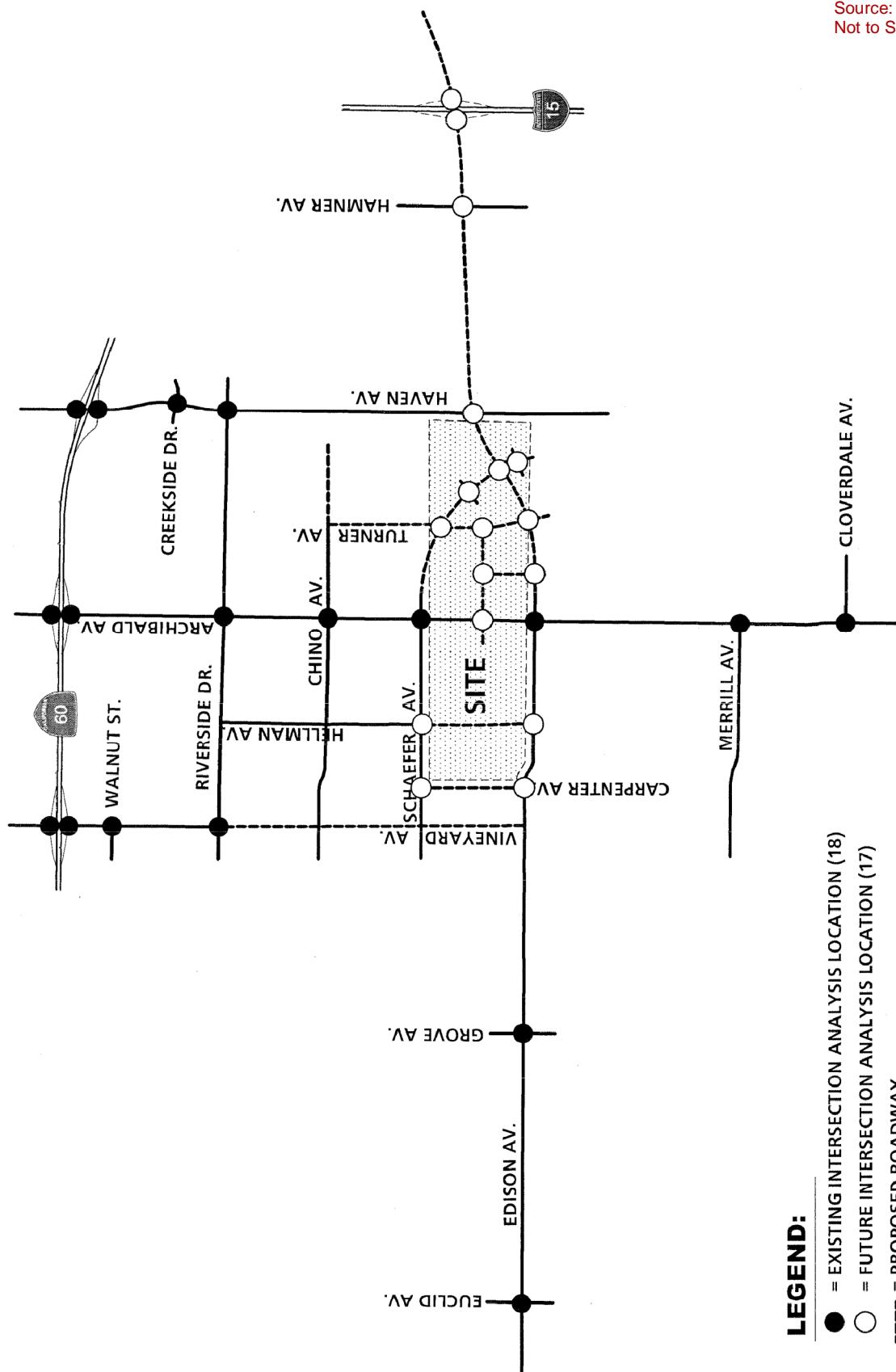
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Intersection	Existing	Future
"A" Street (NS) at:		
• The Avenue (EW)		✓
• Edison Avenue (EW)		✓
Turner Avenue (NS) at:		
• Schaefer Avenue (EW)		✓
• The Avenue (EW)		✓
• Edison Avenue (EW)		✓
Schaefer Avenue (NS) at:		
• Commercial Site Access # 1		✓
• Edison Avenue (EW)		✓
• Commercial Site Access # 2		✓
Haven Avenue (NS) at:		
• SR-60 Freeway Westbound Ramps (EW)	✓	
• SR-60 Freeway Eastbound Ramps (EW)	✓	
• Creekside Drive (EW)	✓	
• Riverside Drive (EW)	✓	
• Edison Avenue (EW) (Realigned)		✓
Hamner Avenue (NS) at:		
• Edison Avenue (EW)		✓
I-15 Freeway Southbound Ramps (NS) at		
• Galena Street (Edison Avenue) (EW)		✓
I-15 Freeway Northbound Ramps (NS) at:		
• Galena Street (Edison Avenue) (EW)		✓
Source: <i>The Avenue Specific Plan Traffic Impact Study</i> , pages 1-6, 1-7, and Exhibit 3-C		

The overall analytical methodologies used in the TIS, which are generally consistent with the CMP traffic study guidelines, entailed evaluation of existing conditions and the 2015 horizon year conditions. Traffic count data used in the TIS was compiled from traffic studies prepared for the Six Specific Plans, except for the intersection of Archibald Avenue at Edison Avenue, for which Urban Crossroads conducted traffic counts in February 2006. Minor adjustments were made to the traffic count data to ensure reasonable existing traffic flow conversation between closely spaced intersections. The TIS uses AM and PM peak hour traffic counts in the analysis.



Source: Urban Crossroads
Not to Scale



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The current technical guide to the evaluation of traffic operations is the *2000 Highway Capacity Manual* (HCM) (Transportation Research Board Special Report 209). The HCM defines Level of Service (LOS) as a qualitative measure describing operational conditions within a traffic stream, generally in terms of such factors as speed and travel time, freedom to maneuver, traffic interruptions, comfort and convenience, and safety.

The criteria used to evaluate LOS conditions vary based on the type of roadway and whether the traffic flow is considered interrupted or uninterrupted. In urban areas, uninterrupted flow is generally found only on limited access (freeway) facilities. LOS for interrupted traffic flow, that is flow restrained by the presence of traffic signals or other traffic control devices, differs depending on the type of traffic control. LOS is typically dependent on the quality of traffic flow at the intersections along a roadway. The HCM methodology expresses intersection LOS in terms of delay time for the various intersection approaches. The HCM uses different procedures depending on the type of intersection control. The TIS calculated intersection LOS using the HCM methodology.

HCM methodology for signalized intersections uses average total delay per vehicle for the overall intersection to determine LOS. Study area intersections with a stop-control (e.g. stop sign) on the minor street and no stop-control on the major street have been analyzed using the two-way stop-controlled unsignalized intersection analysis methodology of the HCM. For these intersections, LOS is dependent on the occurrence of gaps occurring in the traffic flow of the main street. LOS criteria for this type of intersection is based on total delay per vehicle for the worst minor street movement(s).

LOS rankings are from "A" to "F", with LOS A representing the best traffic conditions, that is free flow of traffic and LOS F representing the worst traffic conditions. LOS definitions for uninterrupted flow and average total vehicle delay associated for signalized and unsignalized, and roundabout intersections are summarized in Table 5.15-2.

Table 5.15-2 Level of Service (LOS) Standards

Level of Service (LOS)	LOS Definition for Uninterrupted Flow	Signalized Average Total Delay (Seconds/Vehicle)	Unsignalized and Roundabout Average Total Delay (Seconds/Vehicle)
A	Free flow, individual users are virtually unaffected by the presence of others in traffic.	0 to 10.00	0 to 10.00

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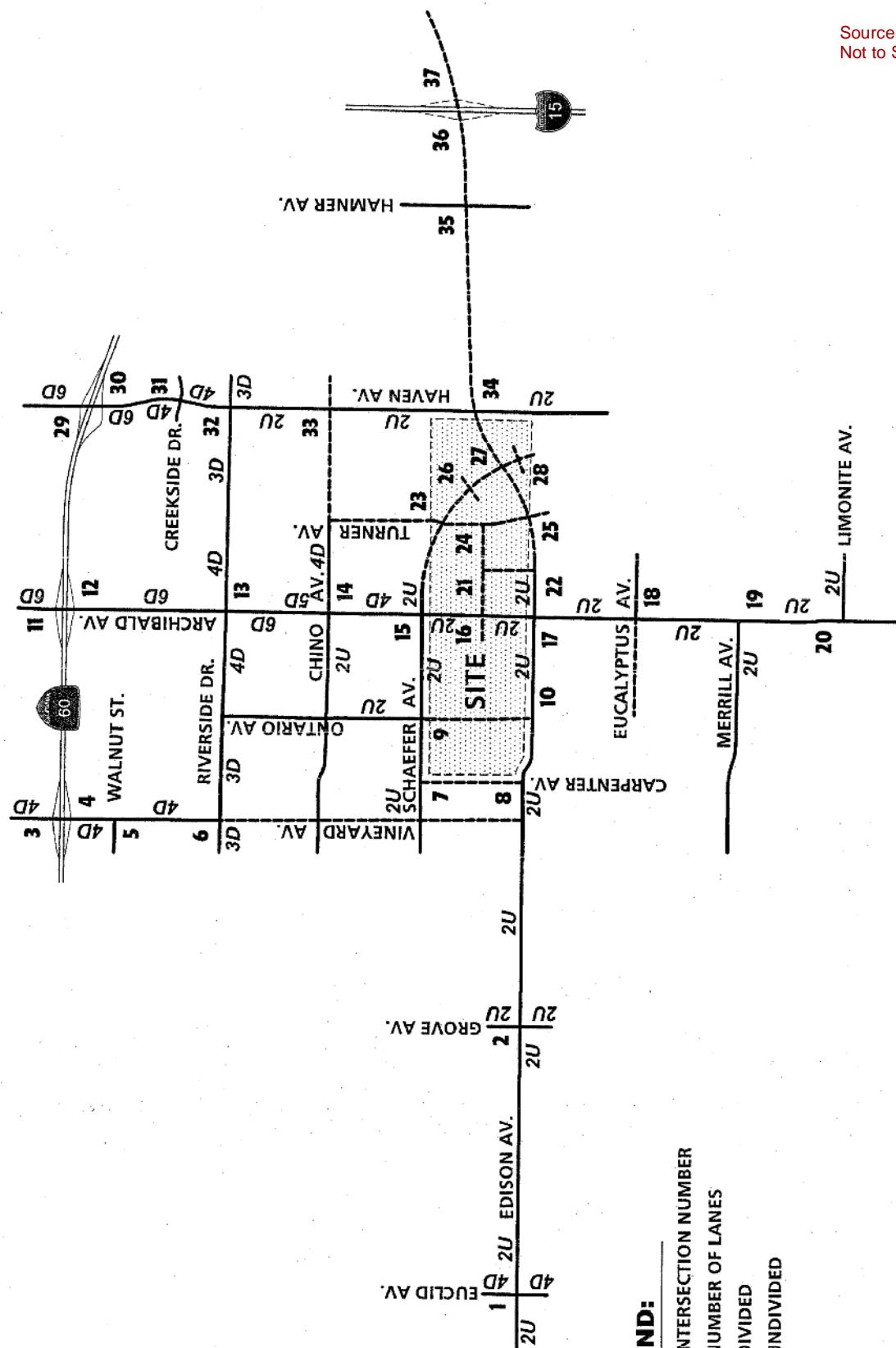
Level of Service (LOS)	LOS Definition for Uninterrupted Flow	Signalized Average Total Delay (Seconds/Vehicle)	Unsignalized and Roundabout Average Total Delay (Seconds/Vehicle)
B	Stable flow, the presence of other users in the traffic stream begins to be noticeable. Freedom to select desired speeds is relatively unaffected, but there is a slight decline in the freedom to maneuver.	10.01 to 20.00	10.01 to 15.00
C	Stable flow, but marks the beginning of the range of flow in which the operation of individual users becomes significantly affected by interactions with others in the traffic stream.	20.01 to 35.00	15.01 to 25.00
D	High-density but stable flow, speed and freedom to maneuver are severely restricted, and the driver experiences a generally poor level of comfort and convenience.	35.01 to 55.00	25.01 to 35.00
E	Operating conditions at or near capacity level, all speeds are reduced to a low, but relatively uniform value. Small increases in flow will cause breakdowns in traffic movement.	55.01 to 80.00	35.01 to 50.00
F	Forced or breakdown flow. This condition exists wherever the amount of traffic approaching a point exceeds the amount which can traverse the point. Queues form behind such locations.	80.01 and up	50.01 and up

Source: *The Avenue Specific Plan Traffic Impact Study*, pgs 1-10 through 1-13

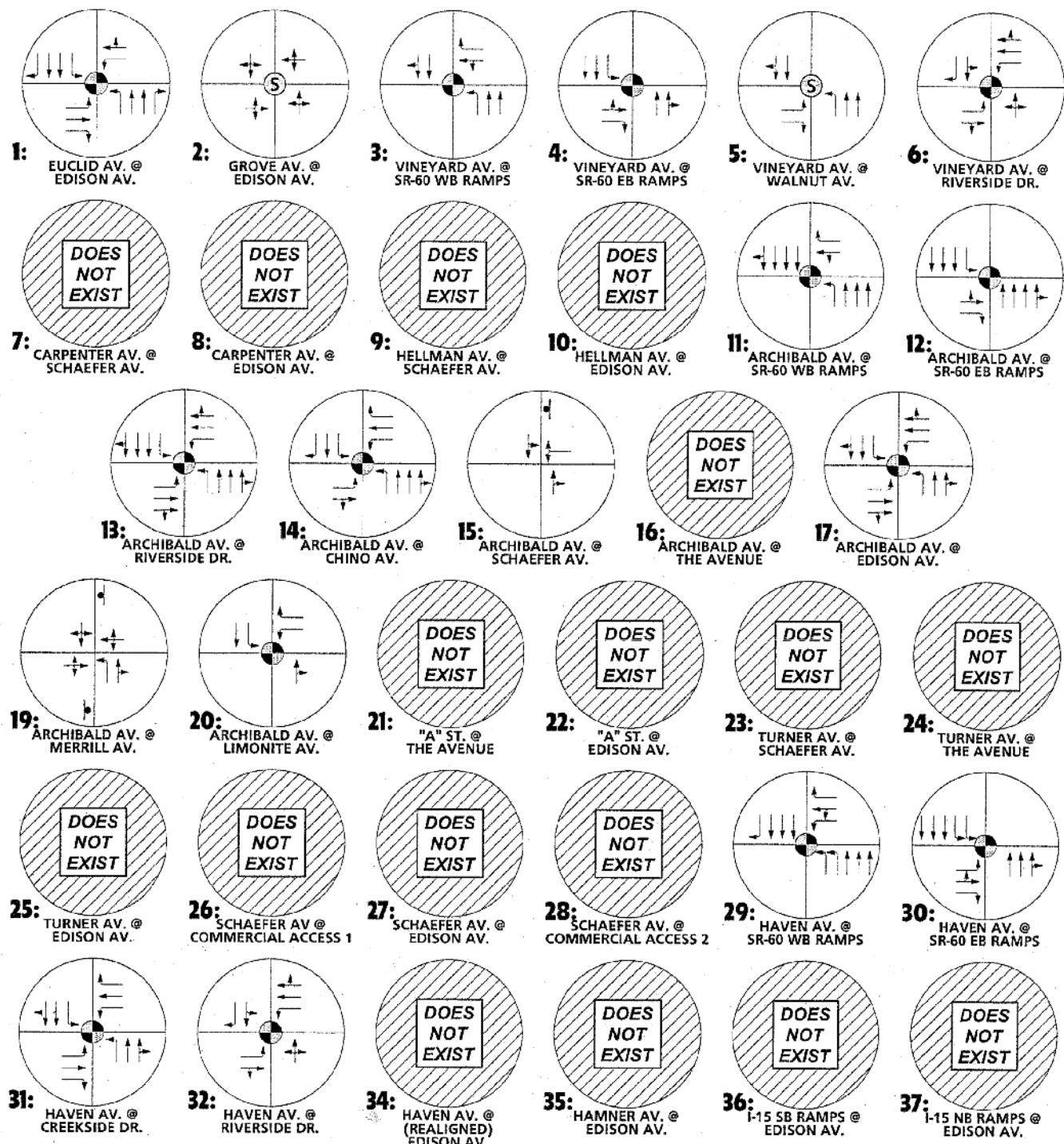
5.15.1 Existing Conditions

The Project Site and Study Area are currently served by an extensive freeway and arterial system. The Pomona Freeway (State Route 60) is located approximately 2 miles north of the northern boundary of the Project Site and Interstate 15 located approximately 2 miles east of the eastern boundary of the Project Site. North/south arterial access is currently provided by Archibald Avenue (2 lanes), which bisects the center of the Project Site and by Haven Avenue (2 lanes), located east of the Project Site. Archibald and Haven Avenues provide access to the Pomona Freeway. East/west arterial access is provided by Edison Avenue (2 lanes) and Schaffer Avenue (2 lanes). Figure 5.15-2 shows the existing number of through lanes and intersection controls in the Study Area.

Source: Urban Crossroads
Not to Scale



Source: Urban Crossroads
Not to Scale



LEGEND:

- (circle with vertical line) = TRAFFIC SIGNAL
- (circle with 'S') = ALL WAY STOP
- (circle with dot) = STOP SIGN

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As previously stated, the Project Site and NMC are served by freeways located north (State Route 60 also known as the Pomona Freeway) and east (Interstate 15). The State Route 60 freeway connects the Project Site to the Inland Empire to the east and northeast, and to the Los Angeles Metropolitan area to the west. State Route 60 branches from and reconnects with Interstate 10, which links the region to the rest of the United States. Interstate 15 connects the Project Site to the San Diego metropolitan area to the south, and also to Orange County to the southwest via State Route 91, or State Route 271. Interstate 15 connects the Project vicinity to the Cities of Barstow, California, and Las Vegas, Nevada to the northeast.

The TIS evaluated existing peak hour traffic operations for both AM and PM peak hours of traffic for the Study Area. The operational analysis for existing conditions at the intersection of Archibald Avenue and Edison Avenue indicate that current conditions warrant a traffic signal. The intersection of Archibald Avenue at Edison Avenue experience excessive delay when operating as all-way stop controlled intersection, but would experience acceptable levels of service during the peak hours under traffic signal control. Table 5.15-3 presents the results of the intersection analysis for the existing conditions.

Table 5.15-3 Intersection Analysis for Existing Conditions

Intersection	AM Delay in seconds	AM LOS	PM Delay in seconds	PM LOS
Euclid Avenue (NS) at: • Edison Avenue (EW)	34.2	C	31.3	C
Grove Avenue (NS) at: • Edison Avenue (EW)	12.8	B	35.3	E
Vineyard Avenue (NS) at: • SR-60 Freeway Westbound Ramps (EW) • SR-60 Freeway Eastbound Ramps (EW) • Walnut Street (EW) • Riverside Drive (EW)	22.2 22.7 14.4 21.9	C C C C	24.3 23.3 24.0 21.0	C C C C
Carpenter Avenue (NS) at: • Schaefer Avenue (EW) • Edison Avenue (EW)	Future Future	Future Future	Future Future	Future Future
Hellman Avenue (NS) at: • Schaefer Avenue (EW) • Edison Avenue (EW)	Future Future	Future Future	Future Future	Future Future

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Intersection	AM Delay in seconds	AM LOS	PM Delay in seconds	PM LOS
Archibald Avenue (NS) at:				
• SR-60 Freeway Westbound Ramps (EW)	29.1	C	28.8	C
• SR-60 Freeway Eastbound Ramps (EW)	16.2	B	20.7	C
• Riverside Drive (EW)	31.7	C	33.8	C
• Chino Avenue (EW)	23.9	C	21.4	C
• Schaefer Avenue (EW)	16.4	C	16.1	C
• The Avenue (EW)	Future	Future	Future	Future
• Edison Avenue (EW)	27.6	C	28.3	C
• Merrill Avenue (EW)	36.8	E	22.4	C
• Limonite Avenue (Cloverdale Road) (EW)	24.2	C	25.9	C
"A" Street (NS) at:				
• The Avenue (EW)	Future	Future	Future	Future
• Edison Avenue (EW)	Future	Future	Future	Future
Turner Avenue (NS) at:				
• Schaefer Avenue (EW)	Future	Future	Future	Future
• The Avenue (EW)	Future	Future	Future	Future
• Edison Avenue (EW)	Future	Future	Future	Future
Schaefer Avenue (NS) at:				
• Commercial Site Access # 1	Future	Future	Future	Future
• Edison Avenue (EW)	Future	Future	Future	Future
• Commercial Site Access # 2	Future	Future	Future	Future
Haven Avenue (NS) at:				
• SR-60 Freeway Westbound Ramps (EW)	15.6	B	14.7	B
• SR-60 Freeway Eastbound Ramps (EW)	28.9	C	24.7	C
• Creekside Drive (EW)	34.0	C	32.9	C
• Riverside Drive (EW)	26.2	C	26.3	C
• Edison Avenue (EW) (Realigned)	Future	Future	Future	Future
Hamner Avenue (NS) at:				
• Edison Avenue (EW)	Future	Future	Future	Future
I-15 Freeway Southbound Ramps (NS) at				
• Galena Street (Edison Avenue) (EW)	Future	Future	Future	Future
I-15 Freeway Northbound Ramps (NS) at:				
• Galena Street (Edison Avenue) (EW)	Future	Future	Future	Future
Future means the intersection does not exist, but is one of the future intersections analyzed in the TIS.				
Source: <i>The Avenue Specific Plan Traffic Impact Study, Ontario, California</i> , Table 5-1, pg. 5-2				

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Per CMP guidelines, signalized intersections are considered deficient (LOS F) if the overall intersection critical volume to capacity (V/C) ratio equals or exceeds 1.0, even if the level of service as defined by the delay value is less than or equal to 50.0 seconds per vehicle. The V/C ratio is defined as the critical volumes divided by the intersection capacity. A V/C ratio greater than 1.0 implies an infinite queue.

The City has established LOS D or better as the standard for signalized intersections. Thus, any City intersection operating at LOS E or worse is considered deficient. Intersections on the regional highway system administered by Caltrans must achieve a LOS reflecting the mid-point of LOS D operations, or 45 seconds of delay for signalized intersections to be considered acceptable. As indicated in Table 5.15-3, there are two intersections in the Study Area currently operating at unacceptable LOS, Grove Avenue at Edison and Archibald Avenue at Merrill.

Traffic Signal Warrant analysis has been conducted for all unsignalized intersections under existing conditions. The signal warrant analysis indicates traffic signals are warranted at Grove Avenue at Edison Avenue, Vineyard Avenue at Walnut Street, and Archibald Avenue at Merrill Avenue.

Transit Service

Omnitrans, the public agency serving San Bernardino Valley, operates one line through the area. Route 70 – Ontario-Creekside-Ontario Mills. Route 70 travels mainly along Campus Avenue, Walnut Avenue, Riverside Drive, and Milliken Avenue. This route provides service between Montclair, Ontario, and Rancho Cucamonga, primarily serving the residential neighborhood in the western part of the City. Transfers to other Omnitrans routes and public transit can be made at the Ontario Civic Center and Ontario Mills Mall (Routes 60, 61, 71, 75, and 90). Route 70 operates seven days a week. On weekdays, it operates with 60-minute headways from 7 A.M. to 9 P.M. On Saturdays and Sundays, it operates every 60 minutes from 7:30 A.M. to 6:30 P.M.

Commuter Rail

The closest rail line to the site is commuter rail service, commonly known as Metrolink, provided by the Southern California Regional Rail Authority (SCRRA). The peak-hour commuter-oriented service operates between the Downtown Riverside Station and Downtown Los Angeles along the Union Pacific rail line, serving other communities along the route at three intermediate stations. One of the intermediate stations is the East Ontario Station, located near Francis Avenue and Haven Avenue, approximately three miles north of the Project Site.

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Bicycle Trails

According to the NMC General Plan, the following bike trails are planned on the Project Site:

- Class I bike paths (bike path that is completely separated from vehicular traffic) are planned along approximately 1,875 feet of Schaefer Avenue west of Haven Avenue, Haven Avenue, Archibald Avenue, and Hellman Avenue.
- A Class III bike trail (shared use with motor vehicle traffic) is planned along Schaeffer Avenue commencing approximately 1,875 feet west Merrill Avenue continuing through the Project Site.

5.15.2 Issues Identified During Public Scoping Meeting

Questions were asked at the public scoping meeting regarding the number of cars, what facilities would be provided for pedestrians, setbacks along Archibald Avenue, and the traffic patterns if the ramp for Galena Street is not constructed on Interstate 15.

As discussed in Section 5.15.7, the Project is projected to result in 31,876 daily trips with 2,619 net vehicles per hour during the AM peak hour and 3,186 net vehicles during the PM peak hour. Pedestrian facilities proposed by The Avenue Specific Plan component of the Project include a system of trails as shown in Figure 3-10 and discussed in Section 3.5.2. Additionally, all streets proposed by the Project include sidewalks as shown in the street cross sections in Figure 5.15-3.

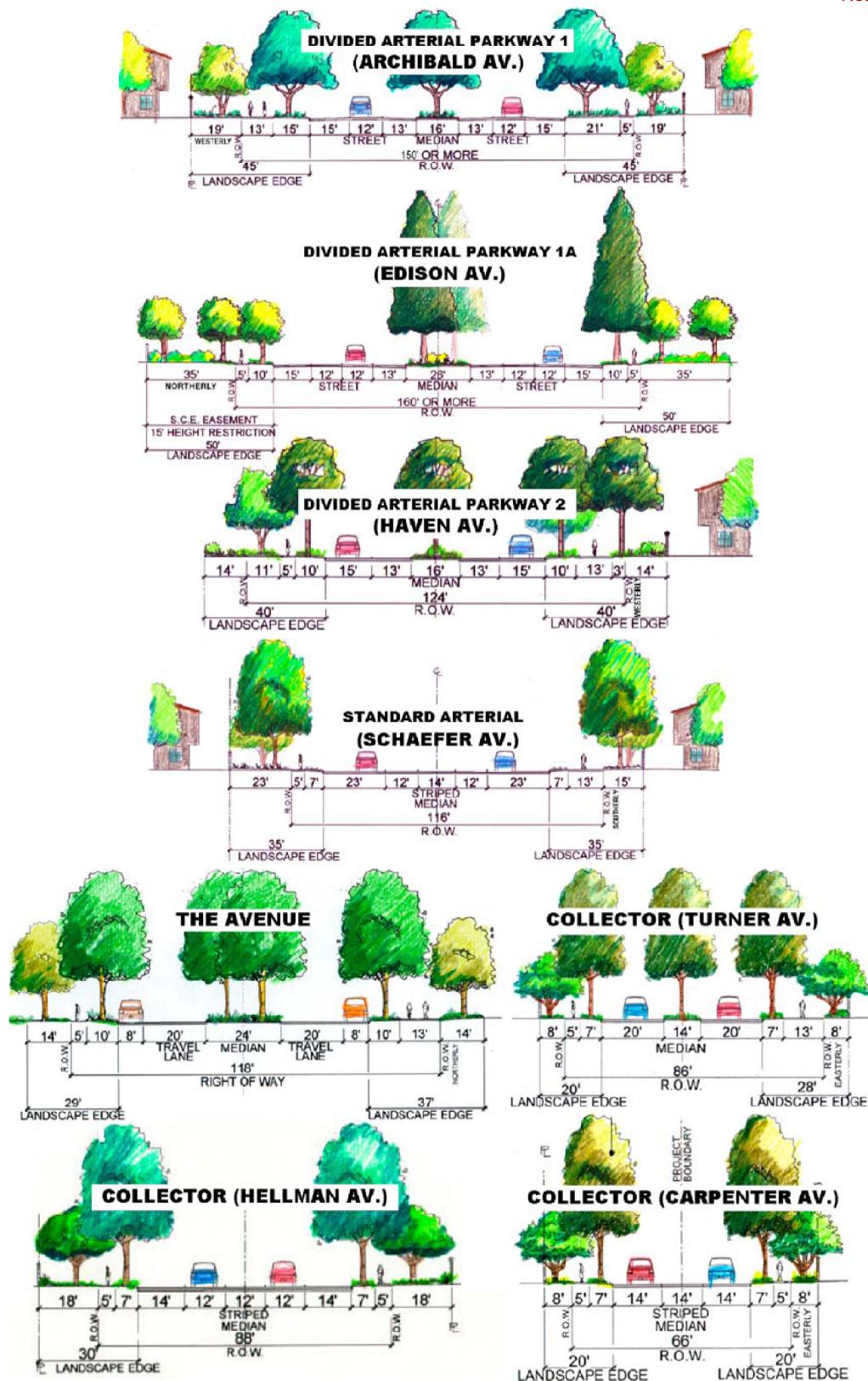
Building setbacks along Archibald Avenue are 19 feet from the right-of-way. The Archibald Avenue street cross section includes a 45 foot neighborhood edge which is measured from the face of curb (Figure 5.15-3). Thus, the minimum distance a building would be set back from the face of curb on Archibald Avenue is 58 feet.

The construction of the Galena Street (Edison Avenue) ramp on the Interstate 15 freeway is underway, the project is on schedule and is anticipated to be completed June 20, 2007 ([Saglam 2006](#)); therefore the EIR does not include a discussion of traffic patterns if this interchange is not constructed.

5.15.3 Issues Identified in NOP and Amended NOP Response Letters

The City of Chino requested consultation from the City relative to the analysis of traffic impacts. City staff will consult with City of Chino staff as part of the environmental review process.

Source: Urban Crossroads
Not to Scale



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5.15.4 Thresholds of Significance

According to Appendix G of the State CEQA Guidelines and the City's Initial Study checklist, a project will normally have a significant impact on transportation and traffic if it:

- Causes an increase in traffic, which is substantial in relation to the existing traffic load and capacity of the street (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections);
- Exceeds, either individually or cumulatively, a level of service (LOS) standard established by the county congestion management agency for designated roads or highways;
- Results in a change in air traffic patterns, either an increase in traffic levels or a change in location that results in substantial safety risks;
- Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment);
- Results in inadequate emergency access;
- Results in inadequate parking capacity; or
- Conflicts with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks).

5.15.5 Project Compliance with Existing Regulations

The City has established performance standards for acceptable levels of service as a minimum LOS C for all local residential streets in peak periods, and LOS D for intersections during peak hours and for collector and arterial roadways (NMC General Plan Policies 11.2.1 – 11.2.3).

To ensure that the Project's circulation system adequately serves local trips while minimizing impacts on the surrounding neighborhoods and the existing system, the City established a transportation impact mitigation fee, which will be paid by all new development in the NMC, including the Project. Impact fees will be used by the City to offset the cost of transportation improvements required by new development. According to the TIP, educational, sports, public, and amenity categories are exempt from the

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transportation fee since the trips to and from these land uses will generally be made by residents or employees of the NMC, and the transportation impact mitigation fees will be captured through residential and employment land uses (Section IV of NMC TIP, 2001). The Project will be subject to the fees established at the time of development. Based on the current fee amounts, the Project is anticipated to pay impact fees in the amount of \$27,447,200 as summarized in Table 5.15-4

Table 5.15-4 DIF Program Traffic Funding Contribution

Land Use Category	Quantity	Impact Fee (per Unit or SF)	Projected Total Fees Generated
Single-Family Residential	2,206 dwelling units	\$10,205	\$22,512,230
Multi Family Residential	120 dwelling units	\$6,655	\$798,600
Commercial	174,000 SF	\$24.30	\$4,228,200
Total			\$27,539,030
Source: <i>The Avenue Specific Plan Traffic Impact Study, Ontario, California</i> , Table 6-1, pg. 6-2			

The Project responsibility towards the improvements that are not part of the City's (or other) fee program has been calculated on the basis of the Project percentage of new traffic. Table 5.15-5 summarizes the fair share contribution analysis. The Project contribution is based on the cost of new improvements and the Project percentage of new traffic during the AM and PM peak hour. The higher traffic contribution percentage has been used at each analysis location. Fair share contributions have been calculated for 2015 With Project Conditions for the intersections. The Project fair share analysis has been based on the proportion of Project peak hour traffic contributed to the improvement location relative to the total new peak hour 2015 With Project traffic volume. As shown in Table 5.15-5, the Project traffic contributions range from 2.5 percent to 14.6 percent at the Study Area intersections and the additional project fair share contribution responsibility is \$46,988.

Table 5.15-5 Additional Fair Share Project Improvement Cost

Intersection	Total Cost	Peak Hour	Existing Traffic	Year 2015 with Project Traffic	Project Traffic	Total New Traffic	Project % of New Traffic	Higher AM or PM Cost Share
Euclid Avenue (NS) at Edison Avenue	\$130,000	AM PM	1,205 1,727	5,438 5,536	183 230	4,233 3,814	4.32% 6.03%	\$7,840

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Intersection	Total Cost	Peak Hour	Existing Traffic	Year 2015 with Project Traffic	Project Traffic	Total New Traffic	Project % of New Traffic	Higher AM or PM Cost Share
Archibald Avenue (NS) at Schaefer Avenue (EW)	\$130,000	AM PM	998 1,178	6,313 7,115	730 868	5,315 5,937	13.73% 14.62%	\$19,006
Archibald Avenue (NS) at Edison Avenue (EW)	\$150,000	AM PM	1,502 1,744	9,394 10,788	734 855	7,892 9,044	9.30% 9.45%	\$4,181
Archibald Avenue (NS) at Merrill Avenue (EW)	\$30,000	AM PM	1,198 1,159	10,258 9,634	234 278	9,060 8,475	2.56% 3.28%	\$4,264
Archibald Avenue (NS) at Cloverdale Road (EW)	\$50,000	AM PM	1,320 1,673	6,293 7,770	167 207	4,973 6,097	3.36% 3.40%	\$1,698
Total Additional Fair Share Cost at Study Intersections								\$46,988
Source: <i>The Avenue Specific Plan Traffic Impact Study, Ontario, California, Table 6-3 pg. 6-8</i>								

The NMC General Plan Circulation element provides for the circulation of people, goods, and public services to support planned development within the NMC. The Project will meet and comply with applicable NMC General Plan policies as discussed below.

Policy 11.1.3 Implement hierarchy of roadways and roadway classifications as shown in Figure 4-15, Figure 4-16, and Figure 4-17 [of the NMC General Plan] that provides for efficient movement of regional through traffic and also protects the residential neighborhoods from intrusion of through traffic.

Policy 11.1.4 Reserve adequate rights-of-way for roadways to implement the hierarchy of local roads within the Sphere of Influence that is consistent with the planned land uses. (I-30)

The Avenue Specific Plan component of the Project complies with these policies by including a Master Plan of Circulation (Figure 3-9 of the EIR and Exhibit 15 of the Specific Plan) that provides a hierarchy of roadways and adequate rights-of-way.

Policy 11.1.9 Augment and implement the comprehensive Citywide Traffic Model within the Sphere of Influence area to reflect the Sphere of Influence land uses and the proposed circulation system.

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The TIS was prepared in consultation with City traffic staff and the City's traffic consultant, Meyer, Mohaddes Associates (MMA). Data was used from the Citywide Traffic Model in the course of preparing the TIS, and the TIS augmented the Citywide Model, through the identification of traffic analysis zones coterminous with the Project boundaries which will facilitate the process of updating the Citywide Model in the future.

Policy 11.2.1 Maintain a level of service not to exceed LOS D for intersections during the peak hours.

Policy 11.2.2 Maintain a peak period level of service not to exceed LOS D for collector and arterial roadways.

Policy 11.2.3 Maintain a peak period level of service not to exceed LOS C for residential streets.

The TIS identifies improvements needed to address the circulation requirements of the Project.

Construction of these improvements is included as mitigation measures in Section 5.15.9.

Policy 11.3.7 Require all Specific Plans within the Sphere of Influence to conduct and prepare separate traffic and circulation studies to:

- *Assess internal circulation system need and to develop a traffic circulation plan for the Specific Plan Area;*
- *Identify regional transportation infrastructure connectivity requirements; and*
- *Identify specific traffic impacts related to the build-out of the Specific Plan on the surrounding areas (outside the Specific Plan) and to identify traffic improvement measures to mitigate these impacts.*

Policy 11.4.1 Require each major development phase or Specific Plan to develop a master plan of streets and conduct a comprehensive traffic impact study, as appropriate.

The TIS prepared for the Project (included in Appendix I of this EIR) satisfies the requirements of these policies relative to the traffic and circulation studies. The Avenue Specific Plan component of the Project includes a Master Plan of Circulation.

Policy 11.4.3 Require that development within the Sphere of Influence be consistent with the provisions of the Countywide Congestion Management Program.

Previous traffic impact studies for the overall NMC, including The Avenue Specific Plan, has been prepared in conformance with the requirements of the CMP and CEQA. The CMP requirement was met per the November 2000, Ontario Sphere of Influence CMP-TIA.

Policy 11.4.8 Require that developers provide all required onsite infrastructure and contribute their proportional share to offsite improvements.

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The provision of onsite transportation infrastructure will be ensured through mitigation measures, development agreements between the Project builders and the City, and conditions of approval placed on The Avenue Specific Plan component of the Project and subsequent Tentative Tract Maps.

5.15.6 Design Considerations

Vehicular access to the Project Site and internal to the Project Site is provided by seven major avenues: Edison, Haven, Schaefer, Turner, Hellman, Carpenter, and Archibald (Figure 3-9). There are three primary access intersections which provide access to the interior of the Project Site: (1) Edison Avenue and Haven Avenue, (2) Schaefer Avenue and Archibald Avenue, and (3) Edison Avenue and Archibald Avenue. Within the Project Site, public streets of varying design will provide access and circulation to the residential, commercial, school, and park areas.

A primary recreational trail will be provided through the improvement of a portion of the SCE owned property (SCE Corridor) within the Project Site (Figure 3-10). This SCE trail will extend from Vineyard Avenue, west of the Project Site to the Cucamonga Creek Channel. The trail will then head north along the west side of the Cucamonga Creek Channel, where it will meet the Class I Bikeway/Multi-Use Path on Schaefer Avenue. This series of trails will provide access to Archibald Avenue and the trail on the east side of the Cucamonga Creek Channel, which also runs north-south within the flood control right-of-way connecting Schaefer Avenue to Edison Avenue. The trail also provides points of connection to parks, The Avenue corridor, residential neighborhoods, and the retail centers.

The improved trails will be landscaped with approved evergreen, deciduous, and flowering plant material. There will be several points in the trail system linking to secondary paths that will lead to the Project's retail/commercial areas and its neighborhoods.

5.15.7 Project Impacts

The proposed Project would develop the Project Site with residential, commercial, park, and school uses that would generate traffic beyond existing conditions. The Project would develop 2,326 residential dwelling units and 174,000 square feet of retail uses. Impacts related to transportation and circulation are evaluated for each of the thresholds of significance identified in Section 5.15.4.

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Impacts Related to Substantial Increases in Traffic Relative to Existing Traffic Load and Capacity of the Street System and Impacts Related to Exceeding Established LOS Standards

Note to the Reader: These two thresholds of significance are discussed together.

Traffic projections for the proposed Project take into consideration several factors. Trip generation represents the amount of traffic traveling to and from the proposed Project. Trip distribution considers the directional orientation of traffic associated with the Project. Modal split takes into account the traffic reducing potential of public transit or other forms of transportation. The City's Transportation Department requires the use of the Highway Capacity Manual (HCM) to determine the level of service at study area intersections based on the average controlled delay per vehicle by approach. As previously stated the TIS used the 2000 HCM methodology to determine LOS.

Trip Generation

The trip generation calculation is based on the most recent Institute of Transportation Engineers *Trip Generation Rates*, 7th Edition, which is a standard source used in traffic studies. Land uses proposed by the Project include both residential and retail commercial. Not all of the vehicle trips expected to be generated by the retail land uses will be new trips on the roadway network. A significant portion of these trips will consist of pass-by trips or vehicles already traveling along roadways adjacent to the Project Site for other purposes that will patronize the retail uses in the Project Site in conjunction with their trip and then continue on to their original destination. Statistics published by the Institute of Transportation Engineers (ITE) indicate that, on average, up to 34 percent of the trips generated by shopping centers consist of pass-by trips. However, in order to provide a conservative (high) assessment of Project related impacts on the transportation infrastructure, a 25 percent pass-by trip rate was applied to the trip generation for the retail component of the Project.

Given the mix of uses proposed as part of the Project, it is expected that a portion of the trips generated will consist of dual-purpose or internally captured trips. For example, a resident may also patronize the retail uses within the development. Similarly, a retail employee within the development may live in the residences within the Project Site. This characteristic of mixed-use developments is not accounted for when the trip generation calculations are performed on an individual land use basis. Studies documented by ITE for mixed-use developments have shown internal capture rates ranging as high as 55 percent during the peak commuter periods. However, in order to provide a conservative (high) analysis scenario, a more conservative assessment of the mixed use capture has been completed. Based on the ITE Multi-Use development trip generation and internal capture summary sheet, the internal capture during the PM

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peak hours is approximately 8%, with 15% daily internal capture. However, a conservative internal capture of 8% was used during the AM, PM,- and daily periods.

Table 5.15-6 summarizes the trip rates for the Project. The net total Project traffic results in 31,876 daily trips with 2,619 net vehicles per hour during the AM peak hour and 3,186 net vehicles per hour during the PM peak hour.

Table 5.15-6 Trip Generation Rates¹

Land Use	ITE Code	Units ²	PEAK HOUR						Daily	
			AM			PM				
			In	Out	Total	In	Out	Total		
Project Trip Rates:										
Single-Family Detached Housing	210	DU	0.19	0.56	0.75	0.64	0.37	1.01	9.57	
Shopping Center	820	KSF	1.01	0.65	1.66	3.15	3.41	6.56	71.3	
Condominiums	230	DU	0.07	0.37	0.44	0.35	0.17	0.52	5.86	
Elementary School ³	520	STD	0.23	0.19	0.42				1.29	
Middle School ³	522	STD	0.29	0.24	0.53	0.08	0.07	0.15	1.62	

¹ Source: Institute of Transportation Engineers (ITE) *Trip Generation* (7th Edition, 2003), Land Use Code 210

² DU = Dwelling Units, KSF=Thousands Square Feet, STD=Students

³ Number of Students were provided by City of Ontario Staff

Trip Distribution

The trip distribution and assignment process represents the directional orientation of traffic to and from the Project Site. The 2015 New Model Colony Traffic Model for the City was used to evaluate the distribution and likely travel routes of the Project traffic in 2015. Detailed trip distributions for each of the different planning areas within the Project are shown on Exhibit 2-A through 2-W in the TIS included in Appendix I of this EIR.

The results of the trip distribution indicate that generally the highest percentage of traffic (9-13%) will utilize State Route 60 (Pomona Freeway) to the west and Interstate 15 to the south and north (up to 12%) to reach regional destinations. Vineyard Avenue will provide the primary access route to the SR-60 Freeway for the western part of the Project, while the eastern areas of the Project will tend to utilize the Archibald Avenue interchange. The Edison Avenue/Galena Street interchange with the I-15 Freeway (currently under construction) will provide primary project access to Interstate 15.

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Modal Split

The TIS did not consider the traffic reducing potential of public transit. This means the traffic projections are conservative in that use of public transit might be able to reduce Project related traffic volumes.

Traffic Generated by Other Development

In order to evaluate the Project plus other pending traffic impacts, preparation of the TIS included a comprehensive review of previously prepared traffic studies. One of the reports reviewed, *City of Ontario Sphere of Influence Congestion Management Program (CMP) Traffic Impact Analysis*, (the CMP Traffic Analysis) prepared by MMA in November 2000, was prepared to evaluate the long range off-site (regional) impacts of the NMC, including the Project. The resulting peak hour trip generation for CMP analysis purposes was 10,112 AM peak hour trips and 14,766 PM peak hour trips. Table 5.15-7 presents a summary of the overall trip generation for the Six Specific Plans and compares these total trips to the trip generation totals evaluated in the CMP Traffic Analysis. As shown in Table 5.15-7, the CMP Traffic Analysis trip generation exceeds the total trip generation for the Six Specific Plans plus the Project by approximately 12% for the PM peak hour and is within 1% for the AM peak hour.

Table 5.15-7 Project Plus Six Specific Plan Trip Generation and Comparison to CMP Traffic Analysis

Specific Plan	AM Peak Hour Trip Generation	AM Peak Hour Trip Generation
The Avenue (the Project)	2,619	3,186
Subarea 29	2,187	2,922
Countryside	630	772
Esperanza	1,166	1,315
West Haven	1,063	1,390
Parkside	1,511	2,133
Edenglen	1,069	1,416
Total	10,245	13,134
CMP Traffic Analysis	10,122	14,766
Difference	-123	1,632
Percent Difference	-1%	12%

Source: *The Avenue Specific Plan Traffic Impact Study*, page 3-27, Table 3-2

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Project Impacts

Implementation of the Project is expected to generate 31,187 daily trips with 2,619 net vehicles during the AM peak hour and 3,186 net vehicles during the PM peak hour. The AM and PM peak hour traffic operations have been evaluated for the Project under three different scenarios, Existing plus Project conditions, 2015 Horizon Year Without Project conditions, and 2015 Horizon Year with Project conditions.

Existing Plus Project Conditions

Table 5.15-8 summarizes the results of the TIS for the Existing Plus Project conditions.

Table 5.15-8 Intersection Analysis for Existing Plus Project Conditions

Intersection	Traffic Control ³	Intersection Approach Lanes ¹												Delay ² (Secs)		Level of Service	
		North-Bound			South-Bound			East-Bound			West-Bound						
		L	T	R	L	T	R	L	T	R	L	T	R	AM	PM	AM	PM
Euclid Avenue (NS) at:																	
• Edison Avenue (EW)	TS	1	2	1	1	2	1	1	1	1	1	1	0	36.1	32.2	D	C
Grove Avenue (NS) at:	AWS	0	1	0	0	1	0	0	1	0	0	1	0	24.7	79.7	C	F
• Edison Avenue (EW) With Improvement		1	1	0	1	1	0	1	1	0	1	1	0	22.3	25.7	C	C
Vineyard Avenue (NS) at:																	
• SR-60 Freeway Westbound Ramps (EW)	TS	1	2	0	0	2	0	0	0	0	0.5	0.5	1	22.3	26.3	C	C
• SR-60 Freeway Eastbound Ramps (EW)	TS	0	2	0	1	2	0	0.5	0.5	1	0	0	0	22.5	25.7	C	C
• Walnut Street (EW) With Improvement	AWS	1	2	0	0	2	0	1	0	1	0	0	0	16.5	64.0	C	F
• Riverside Drive (EW)	TS	1	2	0	0	2	0	1	0	1	0	0	0	21.5	18.8	C	B
•	TS	0	1	0	0.5	0.5		1	1	0	1	2	0	22.5	24.3	C	C
Carpenter Avenue (NS) at:																	
• Schaefer Avenue (EW) With Improvement	CSS	0	1	0	0	0	0	0	1	0	0	1	0	9.5	10.1	A	B
• Edison Avenue (EW) With Improvement		0	0	0	0	1	0	0	1	0	0	1	0	18.1	18.7	C	C
Hellman Avenue (NS) at:																	
• Schaefer Avenue (EW)		Intersection does not exist															

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Intersection	Traffic Control ³	Intersection Approach Lanes ¹												Delay ² (Secs)		Level of Service	
		North-Bound			South-Bound			East-Bound			West-Bound						
		L	T	R	L	T	R	L	T	R	L	T	R	AM	PM	AM	PM
With Improvement	CSS	0	1	0	0	1	0	1	1	0	1	1	0	10.5	11.6	B	B
<ul style="list-style-type: none"> Edison Avenue (EW) With Improvement <p>Intersection does not exist</p>																	
Archibald Avenue (NS) at:	CSS	0	1	0	0	1	0	1	1	0	1	1	0	26.2	31.1	D	D
<ul style="list-style-type: none"> SR-60 Freeway Westbound Ramps (EW) SR-60 Freeway Eastbound Ramps (EW) Riverside Drive (EW) Chino Avenue (EW) Schaefer Avenue (EW) With Improvement 		1	3	0	0	4	0	0	0	0	0.5	0.5	1	31.3	30.4	C	C
<ul style="list-style-type: none"> The Avenue (EW) With Improvement Edison Avenue (EW) Merrill Avenue (EW) With Improvement Limonite Avenue (Cloverdale Road) (EW) 	TS	0	4	0	1	3	0	0.5	0.5	1	0	0	0	15.5	21.6	B	C
<ul style="list-style-type: none"> The Avenue (EW) Edison Avenue (EW) Merrill Avenue (EW) With Improvement Limonite Avenue (Cloverdale Road) (EW) 	TS	1	3	0	1	3	0	1	2	0	1	2	0	32.6	35.8	C	D
"A" Street (NS) at:	CSS	0	1	0	0.5	0.5	0	0	0	0	0	1	0	-- ⁴	-- ⁴	F	F
<ul style="list-style-type: none"> The Avenue (EW) Edison Avenue (EW) With Improvement 		1	1	0	1	1	0	0	0	0	1	1	0	42.7	32.8	D	C
<p>Intersection does not exist</p>																	
Turner Avenue (NS) at:	RDA	0	1	0	0	1	0	0	1	0	0	1	0	2.3	2.2	A	A
<ul style="list-style-type: none"> Schaefer Avenue (EW) With Improvement The Avenue (EW) Edison Avenue (EW) With Improvement 		0	0	0	0	1	0	1	1	0	0	1	0	17.5	19.2	C	C
<p>Intersection does not exist</p>																	
<ul style="list-style-type: none"> Schaefer Avenue (EW) With Improvement The Avenue (EW) Edison Avenue (EW) With Improvement 	TS	1	1	0	1	1	0	1	1	0	1	1	0	23.6	21.8	B	C

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Intersection	Traffic Control ³	Intersection Approach Lanes ¹												Delay ² (Secs)		Level of Service	
		North-Bound			South-Bound			East-Bound			West-Bound						
		L	T	R	L	T	R	L	T	R	L	T	R	AM	PM	AM	PM
Schaefer Avenue (NS) at:																	
• Commercial Site Access #1 With Improvement	CSS	1	1	0	1	1	0	0	1	0	0	1	0	10.8	12.2	B	B
• Edison Avenue (EW) With Improvement	TS	1	1	0	1	1	0	1	1	0	1	1	0	25.3	25.6	C	C
• Commercial Site Access #2 With Improvement	CSS	0	1	0	1	1	0	0	0	0	0	1	0	8.9	9.5	A	A
Haven Avenue (NS) at:																	
• SR-60 Freeway Westbound Ramps (EW)	TS	2	3	0	0	3	1	0	0	0	1.5	0.5	1>>	15.8	15.2	B	B
• SR-60 Freeway Eastbound Ramps (EW)	TS	0	3	0	2	3	0	1.5	0.5	1	0	0	0	29.6	24.9	C	C
• Creekside Drive (EW)	TS	1	2	0	1	2	0	1	1	1	1	1	1	34.4	34.0	C	C
• Riverside Drive (EW)	TS	0	1	0	0.5	0.5	1	1	1	0	1	2	0	24.8	27.3	C	C
• Edison Avenue (EW) (Realigned) With Improvement	TS	1	1	0	1	1	0	1	1	0	1	1	0	18.7	22.0	B	C
Hamner Avenue (NS) at:																	
• Edison Avenue (EW) With Improvement	TS	1	1	0	1	2	0	1	1	0	1	1	0	25.7	28.3	C	C
I-15 Freeway Southbound Ramps (NS) at:																	
• Galena Street (Edison Avenue) (EW) With Improvement	CSS	0	0	0	2	0	1	0	3	1>>	0	2	1>>	8.9	9.7	A	A
I-15 Freeway Northbound Ramps (NS) at:																	
• Galena Street (Edison Avenue) (EW) With Improvement	CSS	1.5	0	1.5	0	0	0	0	3	1	2	3	0	9.7	9.9	A	A
Notes:																	

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Intersection	Traffic Control ³	Intersection Approach Lanes ¹								Delay ² (Secs)		Level of Service		
		North-Bound			South-Bound		East-Bound		West-Bound					
		L	T	R	L	T	R	L	T	R	AM	PM	AM	PM
¹ When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.														
L = Left; T = Through; R = Right														
² Delay and level of service calculated using <i>Trafficx, Version 7.7 R5 (2005)</i> traffic analysis software. Per the HCM, overall average intersection delay and level of service are shown for intersections with traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for worst individual movement (or movements sharing a single lane) are shown.														
³ TS = Traffic Signal; CSS = Cross Street Stop; AWS = All Way Stop														
⁴ -- = Delay High, Intersection Unstable, Level of Service "F"														
Source: <i>The Avenue Specific Plan Traffic Impact Study, Ontario, California</i> , Table 5-2														

As indicated in Table 5.15-8 above, the following intersections will operate at unacceptable levels of services under Existing Plus Project conditions:

- Grove Avenue (NS) at Edison Avenue (EW)
- Vineyard Avenue (NS) at Walnut Street (EW)
- Archibald Avenue (NS) at Schaefer Avenue (EW)
- Archibald Avenue (NS) at Merrill Avenue (EW)

The intersections of Vineyard Avenue at Walnut Street and Archibald Avenue at Schaefer Avenue are deficient under the Existing Plus Project Conditions, but not under existing conditions.

Improvement analysis was conducted for the four deficient intersections listed above. As shown in Table 5.15-8, since all four intersections warrant a traffic signal, the intersections will operate at acceptable levels of service by installing a traffic signal with appropriate intersection geometry improvements. These improvements are included in the City's Development Impact Fee (DIF) program.

For the Existing Plus Project Condition, the following intersections, in addition to the intersections that warrant a traffic signal under the existing conditions as discussed in Section 5.15.1, will also warrant a traffic signal:

- Archibald Avenue (NS) at Schaefer Avenue (EW)
- Archibald Avenue (NS) at The Avenue (EW)
- Turner Avenue (NS) at Edison Avenue (EW)

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- Schaefer Avenue (NS) at Edison Avenue (EW)
- Haven Avenue (NS) at Edison Avenue (EW)
- Hamner Avenue (NS) at Edison Avenue (EW)

2015 Horizon Year Without Project Conditions

The TIS assumes the Project will be built out in 2015. In order to compare the impacts resulting from the Project with the impacts assuming there is no Project in 2015, the TIS includes an analysis of the intersection operations for 2015 Without Project traffic conditions under the existing geometry. The results of this analysis are summarized in Table 5.15-9, and indicate all intersections will operate at unacceptable levels of service during peak hours per City's criteria except the following two intersections:

- Archibald Avenue (NS) at SR-60 Freeway Westbound Ramp (EW)
- Archibald Avenue (NS) at SR-60 Freeway Eastbound Ramp (EW)

Table 5.15-9 also includes the needed improvements for the intersections for the 2015 Without Project conditions. The analysis for improvements was conducted under the assumption that Edison Avenue is to be constructed and connect through to the new Galena interchange (consistent with the model plots reviewed) while Schaefer Avenue through the Project Site will not be built under 2015 Without Project conditions.

Table 5.15-9 Intersection Analysis for 2015 Horizon Year Without Project Conditions

Intersection	Traffic ³ Control	Intersection Approach Lanes ¹												Delay ² (Secs)		Level of Service	
		North-Bound			South-Bound			East-Bound			West-Bound						
		L	T	R	L	T	R	L	T	R	L	T	R	AM	PM	AM	PM
Euclid Avenue (NS) at: <ul style="list-style-type: none"> • Edison Avenue (EW) Without Imp. With Imp. With Previously Published Imp. 	TS	1	2	1	1	2	1	1	1	1	1	1	0	-- ⁴	-- ⁴	F	F
	TS	<u>2</u>	<u>4</u>	1	<u>2</u>	<u>4</u>	1	1	<u>4</u>	<u>1></u>	<u>2</u>	<u>3</u>	0	44.4	50.8	D	D
	TS	<u>2</u>	<u>4</u>	1	<u>2</u>	<u>4</u>	1	1	<u>3</u>	<u>2</u>	<u>2</u>	<u>3</u>	1	38.9	55.3	D	E
Grove Avenue (NS) at: <ul style="list-style-type: none"> • Edison Avenue (EW) Without Imp. With Imp. 	AWS	0	1	0	0	1	0	0	1	0	0	1	0	-- ⁴	-- ⁴	F	F
	TS	<u>2</u>	<u>2</u>	<u>1>0</u>	<u>2</u>	<u>3</u>	1	<u>2</u>	<u>3</u>	<u>1</u>	<u>2</u>	<u>2</u>	1	47.1	41.8	D	D
Vineyard Avenue (NS) at: <ul style="list-style-type: none"> • SR-60 Freeway WB Ramps (EW) 																	

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Intersection	Traffic ³ Control	Intersection Approach Lanes ¹												Delay ² (Secs)		Level of Service	
		North-Bound			South-Bound			East-Bound			West-Bound			AM	PM	AM	PM
		L	T	R	L	T	R	L	T	R	L	T	R				
Without Imp.	TS	1	2	0	0	2	0	0	0	0	0.5	0.5	1	-- ⁴	-- ⁴	F	F
With Imp.	TS	<u>2</u>	<u>3</u>	0	0	2	<u>1</u>	0	0	0	<u>1.5</u>	0.5	1	18.9	31.6	B	C
• SR-60 Freeway EB Ramps (EW)																	
Without Imp.	TS	0	2	0	1	2	0	0.5	0.5	1	0	0	0	-- ⁴	-- ⁴	F	F
With Imp	TS	0	<u>3</u>	<u>1</u>	1	2	0	<u>1.5</u>	0.5	1	0	0	0	27.4	27.8	C	C
• Walnut Street (EW)																	
Without Imp.	AWS	1	2	0	0	2	0	1	0	1	0	0	0	-- ⁴	-- ⁴	F	F
With Imp.	<u>TS</u>	1	2	0	0	2	<u>1</u>	<u>2</u>	0	1	0	0	0	28.7	14.9	C	B
• Riverside Drive (EW)																	
Without Imp.	TS	0	1	0	0.5	0.5	1	1	1	0	1	2	0	-- ⁴	-- ⁴	F	F
With Imp.	TS	<u>2</u>	<u>3</u>	<u>1</u>	<u>2</u>	<u>2</u>	1	1	<u>2</u>	<u>1</u>	1	2	<u>1</u>	54.7	52.6	D	D
Hellman Avenue (NS) at:																	
• Schaefer Avenue (EW)																	
Without Imp.																	
With Imp.																	
Intersection does not exist																	
Archibald Avenue (NS) at:																	
• SR-60 Freeway WB Ramps (EW)																	
Without Imp.	TS	1	3	0	0	4	0	0	0	0	0.5	0.5	1	34.4	45.0	C	D
• SR-60 Freeway EB Ramps (EW)																	
Without Imp.	TS	0	4	0	1	3	0	0.5	0.5	1	0	0	0	7.9	16.8	A	B
• Riverside Drive (EW)																	
Without Imp.	TS	1	3	0	1	3	0	1	2	0	1	2	0	36.8	-- ⁴	D	F
With Imp.	TS	1	3	0	1	3	<u>1</u>	1	<u>3</u>	0	1	2	0	38.7	51.5	D	D
• Chino Avenue (EW)																	
Without Imp	TS	1	3	0	1	1	1	1	1	0	1	1	1	57.2	-- ⁴	F	F
With Imp	TS	1	3	<u>1</u>	1	<u>4</u>	<u>0</u>	1	<u>3</u>	<u>1</u>	<u>2</u>	<u>2</u>	<u>0</u>	37.8	47.7	D	D
• Schaefer Avenue (EW)																	
Without Imp.	CSS	0	1	0	0.5	0.5	0	0	0	0	0	1	0	-- ⁴	-- ⁴	F	F
With Imp	<u>TS</u>	<u>2</u>	<u>3</u>	0	<u>1</u>	<u>3</u>	<u>1</u>	<u>2</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>2</u>	<u>1</u>	48.1	39.4	D	D
• Edison Avenue (EW)																	
Without Imp.	TS	1	2	0	1	2	0	1	2	0	1	2	0	-- ⁴	-- ⁴	F	F
With Imp.	TS	<u>3</u>	<u>3</u>	0	1	<u>4</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>1</u>	47.8	49.8	D	D
With Previously Published Imp.	TS	<u>2</u>	<u>4</u>	<u>1</u>	2	<u>4</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>2</u>	<u>2</u>	<u>3</u>	<u>1</u>	49.6	84.0	D	F

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Intersection	Traffic ³ Control	Intersection Approach Lanes ¹												Delay ² (Secs)		Level of Service	
		North-Bound			South-Bound			East-Bound			West-Bound						
		L	T	R	L	T	R	L	T	R	L	T	R	AM	PM	AM	PM
• Merrill Avenue (EW) Without Imp. With Imp. With Previously Published Imp.	CSS <u>TS</u> <u>TS</u>	1 <u>2</u> <u>2</u>	1 <u>4</u> <u>4</u>	0 <u>1</u> <u>1</u>	0 <u>2</u> <u>2</u>	1 <u>3</u> <u>4</u>	0 <u>1</u> <u>1</u>	0 <u>1</u> <u>2</u>	1 <u>4</u> <u>3</u>	0 <u>1</u> <u>1</u>	0 <u>2</u> <u>2</u>	1 <u>2</u> <u>3</u>	0 <u>1</u> <u>1</u>	-- ⁴ 47.0 69.9	-- ⁴ 42.9 56.9	F D E	F D E
• Cloverdale Road (EW) Without Imp. With Imp. With Previously Published Imp.	TS TS TS	0 0 0	1 <u>3</u> <u>4</u>	0 <u>1</u> <u>1</u>	1 <u>1</u> <u>2</u>	1 <u>3</u> <u>4</u>	0 0 0	0 0 0	0 0 0	0 0 0	1 <u>3</u> <u>2</u>	0 0 0	1 <u>1</u> <u>1</u>	-- ⁴ 34.8 48.7	-- ⁴ 21.3 34.0	F C D	F C C
Haven Avenue (NS) at:	TS	2	3	0	0	3	1	0	0	0	1.5	0.5	1>>	15.7	14.3	B	B
• SR-60 Freeway WB Ramps (EW) Without Imp.	TS	2	3	0	0	3	1	0	0	0	1.5	0.5	1>>	15.7	14.3	B	B
• SR-60 Freeway EB Ramps (EW) Without Imp.	TS	0	3	0	2	3	0	1.5	0.5	1	0	0	0	29.5	24.4	C	C
• Creekside Drive (EW) Without Imp.	TS	1	2	0	1	2	0	1	1	1	1	1	1	35.4	37.2	D	D
• Riverside Drive (EW) Without Imp. With Imp.	TS TS	0 1	1 <u>2</u>	0 <u>2></u>	0.5 <u>2</u>	0.5 <u>2</u>	1 <u>0</u>	1 <u>2</u>	1 <u>2</u>	0 0	1 <u>2</u>	2 <u>2</u>	0 0	-- ⁴ 37.1	-- ⁴ 48.9	F D	F D
• (Realigned) Edison Avenue (EW) Without Imp. With Imp.	TS	1	1	0	1	1	0	1	1	0	1	1	0	18.7	22.0	B	C
Hamner Avenue (NS) at:																	
• Edison Avenue (EW) Without Imp. With Imp.	<u>TS</u>	<u>2</u>	<u>3</u>	<u>1</u>	<u>2</u>	<u>4</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>1></u>	<u>2</u>	<u>3</u>	<u>1</u>	41.0	50.6	D	D
I-15 Freeway SB Ramps (NS) at																	
• Edison Avenue (EW) Without Imp. With Imp.	TS	0	0	0	<u>2</u>	0	<u>1</u>	0	3	<u>1>></u>	0	<u>2</u>	<u>1>></u>	17.7	18.8	B	B
Intersection does not exist																	
Intersection does not exist																	
Intersection does not exist																	

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Intersection	Traffic ³ Control	Intersection Approach Lanes ¹												Delay ² (Secs)		Level of Service	
		North-Bound			South-Bound			East-Bound			West-Bound			AM	PM	AM	PM
		L	T	R	L	T	R	L	T	R	L	T	R				
I-15 Freeway Northbound Ramps (NS) at: • Edison Avenue (EW) Without Imp. With Imp.																	
Intersection does not exist																	
	CSS	1.5	0	1.5	0	0	0	0	3	1	2	3	0	29.8	27.2	C	C
Notes:																	
¹ When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.																	
L = Left; T = Through; R = Right; >> = Free right Turn; > = Right Turn Overlap; 1 = Improvements																	
² Delay and level of service calculated using <i>Trafficx, Version 7.7 R5</i> (2005). Per the HCM, overall average intersection delay and level of service are shown for intersections with traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for worst individual movement (or movements sharing a single lane) are shown.																	
³ TS = Traffic Signal; CSS = Cross Street Stop; AWS = All Way Stop; RDA = Roundabout																	
⁴ -- = Delay High, Intersection Unstable, Level of Service "F"																	
Source: <i>The Avenue Specific Plan Traffic Impact Study, Ontario, California</i> , Table 5-3																	

2015 Horizon Year With Project Conditions

The intersection operations analysis for 2015 With Project traffic conditions under the existing geometry conditions are summarized in Table 5.15-10 (on the following pages). As shown in Table 5.15-10, all intersections will operate at unacceptable levels of service during peak hours per City's criteria except the new Project intersections and existing intersection at Archibald Avenue (NS) at SR-60 Freeway Eastbound Ramp (EW), which will operate at acceptable levels of service.

Table 5.15-10 Intersection Analysis for 2015 Horizon Year With Project Conditions

Intersection	Traffic Control	Intersection Approach Lanes												Delay (Secs)		Level of Service	
		North-Bound			South-Bound			East-Bound			West-Bound			AM	PM	AM	PM
		L	T	R	L	T	R	L	T	R	L	T	R				
Euclid Avenue (NS) at: • Edison Avenue (EW) Without Imp. With Imp. W/Prev. Pub.Imp.	TS	1	2	1	1	2	1	1	1	1	1	1	0	-- ⁴	-- ⁴	F	F
	TS	<u>2</u>	<u>4</u>	1	<u>2</u>	<u>4</u>	1	1	<u>4</u>	<u>1></u>	<u>2</u>	<u>3</u>	0	48.1	52.8	D	D
	TS	<u>2</u>	<u>4</u>	1	<u>2</u>	<u>4</u>	1	1	<u>3</u>	<u>2</u>	<u>2</u>	<u>3</u>	1	41.2	58.4	D	E
Grove Avenue (NS) at: • Edison Avenue (EW) Without Imp. With Imp.	AWS	0	1	0	0	1	0	0	1	0	0	1	0	-- ⁴	-- ⁴	F	F
	TS	<u>2</u>	<u>2</u>	<u>1></u>	<u>2</u>	<u>3</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>1</u>	<u>2</u>	<u>2</u>	<u>1</u>	49.5	43.7	D	D
Vineyard Avenue (NS) at: • SR-60																	

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Intersection	Traffic Control	Intersection Approach Lanes												Delay (Secs)		Level of Service	
		North-Bound			South-Bound			East-Bound			West-Bound						
		L	T	R	L	T	R	L	T	R	L	T	R	AM	PM	AM	PM
Freeway WB Ramps (EW)																	
Without Imp.	TS	1	2	0	0	2	0	0	0	0	0.5	0.5	1	-- ⁴	-- ⁴	F	F
With Imp.	TS	<u>2</u>	<u>3</u>	0	0	2	<u>1</u>	0	0	0	<u>1.5</u>	0.5	1	19.3	35.4	B	D
• SR-60 Freeway EB Ramps (EW)	TS	0	2	0	1	2	0	0.5	0.5	1	0	0	0	-- ⁴	-- ⁴	F	F
Without Imp.	TS	0	<u>3</u>	<u>1</u>	1	2	0	<u>1.5</u>	0.5	1	0	0	0	34.7	32.7	C	C
With Imp.	AWS	1	2	0	0	2	0	1	0	1	0	0	0	-- ⁴	-- ⁴	F	F
• Walnut Street (EW)	<u>TS</u>	1	3	0	0	2	<u>1</u>	<u>2</u>	0	1	0	0	0	22.6	15.4	C	B
• Without Imp.	TS	0	1	0	0.5	0.5	1	1	1	0	1	2	0	-- ⁴	-- ⁴	F	F
With Imp.	TS	<u>2</u>	<u>3</u>	<u>1</u>	<u>2</u>	<u>3</u>	1	<u>2</u>	<u>2</u>	<u>1</u>	1	2	<u>1</u>	51.4	52.7	D	D
Carpenter Avenue (NS) at:																	
Without Imp	<u>CSS</u>	0	0	<u>1</u>	0	0	0	0	<u>2</u>	0	0	<u>2</u>	0	16.4	12.9	C	B
With Imp.																	
• Edison Avenue (EW):																	
Without Imp	<u>CSS</u>	0	0	0	0	0	<u>1</u>	0	<u>2</u>	0	0	<u>3</u>	0	18.0	17.3	C	C
With Imp																	
Hellman Avenue (NS) at:																	
• Schaefer Avenue (EW)	<u>TS</u>	<u>1</u>	<u>1</u>	0	<u>1</u>	<u>1</u>	0	<u>1</u>	<u>2</u>	0	<u>1</u>	<u>2</u>	0	35.1	23.1	D	C
Without Imp.																	
With Imp.																	
• Edison Avenue (EW):																	
Without Imp.	<u>TS</u>	<u>1</u>	<u>1</u>	0	<u>1</u>	<u>1</u>	0	<u>1</u>	<u>3</u>	0	<u>1</u>	<u>2</u>	0	36.1	35.3	D	D
With Imp.																	
Archibald Avenue (NS) at:																	
• SR-60 Freeway WB Ramps (EW)	TS	1	3	0	0	4	0	0	0	0	0.5	0.5	1	36.1	55.6	D	F
Without Imp.	TS	<u>2</u>	3	0	0	4	0	0	0	0	0.5	0.5	1	32.9	37.3	C	D
With Alt. 1 Imp	TS	1	3	0	0	4	0	0	0	0	0.5	0.5	<u>2</u>	24.4	25.8	C	C
With Alt. 2 Imp.																	
• SR-60 Freeway EB Ramps (EW)	TS	0	4	0	1	3	0	0.5	0.5	1	0	0	0	8.2	18.9	A	B
Without Imp.																	
• Riverside Drive (EW)	TS	1	3	0	1	3	0	1	2	0	1	2	0	42.0	-- ⁴	D	F
Without Imp.	TS	1	3	0	1	3	<u>1</u>	1	<u>3</u>	<u>1</u>	<u>2</u>	2	0	41.7	52.7	D	D
With Imp.																	

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Intersection	Traffic Control	Intersection Approach Lanes												Delay (Secs)		Level of Service	
		North-Bound			South-Bound			East-Bound			West-Bound						
		L	T	R	L	T	R	L	T	R	L	T	R	AM	PM	AM	PM
• Chino Avenue (EW)																	
Without Imp.	TS	1	3	0	1	1	1	1	1	0	1	1	1	81.4	-- ⁴	F	F
With Imp.	TS	1	3	<u>1</u>	1	<u>4</u>	1	1	<u>3</u>	0	<u>2</u>	<u>2</u>	<u>0</u>	41.0	51.9	D	D
• Schaefer Avenue (EW)	CSS	0	1	0	0.5	0.5	0	0	0	0	0	1	0	-- ⁴	-- ⁴	F	F
Without Imp.	TS	<u>2</u>	<u>3</u>	0	<u>1</u>	<u>4</u>	<u>1></u>	<u>2</u>	<u>1</u>	<u>1></u>	<u>1</u>	<u>2</u>	<u>1</u>	30.3	38.0	C	D
With Imp.	TS	<u>2</u>	<u>3</u>	0	<u>1</u>	<u>3</u>	<u>1</u>	<u>2</u>	<u>1</u>	<u>2</u>	<u>1</u>	<u>1</u>	<u>1</u>	-- ⁴	89.6	F	F
W/Prev. Pub. Imp.																	
• The Avenue (EW)																	
Without Imp.																	
With Imp.	TS	<u>1</u>	<u>3</u>	0	<u>1</u>	<u>3</u>	0	<u>1</u>	<u>1</u>	0	<u>1</u>	<u>1</u>	0	25.7	19.2	C	B
• Edison Avenue (EW)																	
Without Imp.	TS	1	2	0	1	2	0	1	2	0	1	2	0	-- ⁴	-- ⁴	F	F
With Imp.	TS	<u>3</u>	<u>3</u>	0	<u>2</u>	<u>4</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>1>></u>	<u>2</u>	<u>4</u>	0	50.1	52.5	D	D
W/Prev. Pub. Imp.	TS	<u>2</u>	<u>4</u>	<u>1</u>	<u>2</u>	<u>4</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>2</u>	<u>2</u>	<u>3</u>	<u>1</u>	51.0	-- ⁴	F	F
• Merrill Avenue (EW)	CSS	1	1	0	0	1	0	0	1	0	0	1	0	-- ⁴	-- ⁴	F	F
Without Imp.	TS	<u>2</u>	<u>4</u>	<u>1></u>	<u>2</u>	<u>3</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>1></u>	49.2	45.0	D	E
With Imp.	TS	<u>2</u>	<u>4</u>	<u>1</u>	<u>2</u>	<u>4</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>1</u>	70.3	60.7	E	E
W/Prev. Pub. Imp.																	
• Cloverdale Road (EW)																	
Without Imp.	TS	0	1	0	1	1	0	0	0	0	1	0	1	-- ⁴	-- ⁴	F	F
With Imp.	TS	0	<u>3</u>	<u>1</u>	1	<u>3</u>	0	0	0	0	<u>3</u>	0	<u>1></u>	37.1	26.0	D	C
W/Prev. Pub. Imp.	TS	0	<u>4</u>	<u>1</u>	<u>2</u>	<u>4</u>	0	0	0	0	<u>2</u>	0	1	50.5	43.3	D	D
"A" Street (NS) at:																	
• The Avenue (EW)																	
Without Imp.																	
With Imp.	RDA	0	<u>1</u>	0	0	<u>1</u>	0	0	<u>1</u>	0	0	<u>1</u>	0	2.3	2.2	A	A
• Edison Ave, Without Imp.																	
With Imp.	TS	0	<u>1</u>	0	0	<u>1</u>	0	<u>1</u>	<u>2</u>	0	0	<u>2</u>	0	8.6	6.4	A	A
Turner Av. (NS) at:																	
• Schaefer Ave. (EW)																	
Without Imp.																	
With Imp.	TS	<u>1</u>	<u>1</u>	0	<u>1</u>	<u>1</u>	0	<u>1</u>	<u>1</u>	0	<u>1</u>	<u>1</u>	0	28.7	24.5	C	C
• The Avenue (EW)																	
Without Imp.																	
With Imp.	RDA	0	<u>1</u>	0	0	<u>1</u>	0	0	<u>1</u>	0	0	<u>1</u>	0	2.1	2.1	A	A
• Edison Ave. (EW)																	
Without Imp.																	

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Intersection	Traffic Control	Intersection Approach Lanes												Delay (Secs)		Level of Service	
		North-Bound			South-Bound			East-Bound			West-Bound						
		L	T	R	L	T	R	L	T	R	L	T	R	AM	PM	AM	PM
With Imp.	<u>TS</u>	1	1	0	1	1	0	1	2	0	1	2	0	19.9	21.1	B	C
Schaefer Av. (NS) at:																	
• Comm. Site Access #1 Without Imp	<u>TS</u>	1	1	0	1	1	0	0	1	0	0	1	0	12.8	24.2	B	C
Without Imp.	<u>CSS</u>	1	1	0	1	1	0	0	1	0	0	1	0	19.4	48.0	B	D
• Edison Ave. (EW) Without Imp.	<u>TS</u>	1	1	0	2	1	0	1	2	0	1	2	0	8.9	9.5	A	A
Without Imp.	<u>CSS</u>	0	1	0	0	1	0	0	0	0	0	1	0	30.3	24.5	C	C
With Imp.																	
Haven Avenue (NS) at:																	
• SR-60 Freeway WB Ramps (EW) Without imp.	<u>TS</u>	2	3	0	0	3	1	0	0	0	1.5	0.5	1>>	15.8	14.6	B	B
Without imp.	<u>TS</u>	0	3	0	2	3	0	1.5	0.5	1	0	0	0	30.3	24.5	C	C
• SR-60 Freeway EB Ramps (EW) Without imp.	<u>TS</u>	1	2	0	1	2	0	1	1	1	1	1	1	37.7	39.2	D	D
Without imp.	<u>TS</u>	0	1	0	0.5	0.5	1	1	1	0	1	2	0	-- ⁴	-- ⁴	F	F
With Imp.	<u>TS</u>	1	2	2>	2	2	0	2	2	0	2	2	0	39.2	54.0	D	D
• Creekside Drive (EW) Without imp.	<u>TS</u>	1	2	0	1	2	1	1	3	1	2	3	0	38.2	53.4	D	D
Without imp.	<u>TS</u>	1	2	0	1	2	1	1	3	1	2	3	0	30.3	24.5	C	C
(Realigned) Edison Ave (EW) Without Imp.	<u>TS</u>	1	2	2>	2	2	0	2	2	0	2	2	0	30.3	24.5	C	C
With Imp.	<u>TS</u>	1	2	0	1	2	1	1	3	1	2	3	0	38.2	53.4	D	D
Hamner Avenue (NS) at:																	
• Edison Ave (EW) Without Imp.	<u>TS</u>	2	3	1	2	4	1	2	3	1>	2	3	1	41.1	51.5	D	D
With Imp.																	
I-15 Freeway SB Ramps (NS) at:																	
• Edison Ave Without Imp. (EW) With Imp.	<u>TS</u>	0	0	0	2	0	1	0	3	1>>	0	2	1>>	18.8	23.8	B	C
Without Imp.	<u>TS</u>	0	0	0	2	0	1	0	3	1>>	0	2	1>>	30.3	24.5	C	C

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Intersection	Traffic Control	Intersection Approach Lanes												Delay (Secs)		Level of Service	
		North-Bound			South-Bound			East-Bound			West-Bound						
		L	T	R	L	T	R	L	T	R	L	T	R	AM	PM	AM	PM
I-15 Freeway NB Ramps (NS) at: • Edison Ave (EW) Without Imp. With Imp.	TS	1.5	0	1.5	0	0	0	0	3	1	2	3	0	31.1	27.7	C	C
Notes:																	
¹ When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.																	
L = Left; T = Through; R = Right; >> = Free right Turn; > = Right Turn Overlap; 1 = Improvements																	
² Delay and level of service calculated using <i>Traffic, Version 7.7 R5</i> (2005). Per the HCM, overall average intersection delay and level of service are shown for intersections with traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for worst individual movement (or movements sharing a single lane) are shown.																	
³ TS = Traffic Signal; CSS = Cross Street Stop; AWS = All Way Stop; RDA = Roundabout																	
⁴ -- = Delay High, Intersection Unstable, Level of Service "F"																	
Source: <i>The Avenue Specific Plan Traffic Impact Study, Ontario, California</i> , Table 5-5																	

The Master Plan of Circulation for The Avenue Specific Plan includes two 165-foot roundabouts at the intersections of:

- “A” Street at The Avenue
- Turner Avenue at The Avenue

Both of the roundabouts will operate at LOS A.

In addition to the onsite improvements, the following offsite improvements are needed to achieve an acceptable level of service and delay time for 2015 With Project conditions. Funding for the offsite improvements will be provided in one of three ways: (i) payment of the City's DIF per Table 5.15-4 as required by Project mitigation measure T-1 (improvements marked with a “*” are part of the DIF program); (ii) payment of the Additional Fair Share Project Improvement Cost per Table 5.15-5 as required by Project mitigation measure T-2 (improvements marked “**” are part included in those costs); or (iii) improvements already funded by another source (improvements marked “***”).

- Euclid Avenue (NS) at Edison Avenue (EW)
 - ❖ Construct second northbound left turn lane*
 - ❖ Construct third and fourth northbound through lane*
 - ❖ Construct second southbound left turn lane*
 - ❖ Construct third and fourth southbound through lane*

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- ❖ Construct second and third eastbound through lane*
- ❖ Construct fourth eastbound through lane**
- ❖ Construct second westbound left turn lane*
- ❖ Construct second and third westbound through lane*
- ❖ Modify existing traffic signal*
- Grove Avenue (NS) at Edison Avenue (EW)
 - ❖ Install a traffic signal*
 - ❖ Construct first and second northbound left turn lane*
 - ❖ Construct second northbound through lane*
 - ❖ Construct first northbound right turn lane*
 - ❖ Construct first and second southbound left turn lane*
 - ❖ Construct second and third southbound through lane*
 - ❖ Construct first southbound right turn lane*
 - ❖ Construct first and second eastbound left turn lane*
 - ❖ Construct second and third eastbound through lane*
 - ❖ Construct first eastbound right turn lane*
 - ❖ Construct first and second westbound left turn lane*
 - ❖ Construct second westbound through lane*
 - ❖ Construct first westbound right turn lane*
- Vineyard Avenue (NS) at State Route 60 Westbound Ramps (EW)
 - ❖ Construct second northbound turn lane*
 - ❖ Construct third northbound through lane*
 - ❖ Construct first southbound right turn lane*
 - ❖ Construct first exclusive westbound left turn lane*
 - ❖ Modify existing traffic signal*
- Vineyard Avenue (NS) at State Route 60 Eastbound Ramps (EW)
 - ❖ Construct third northbound through lane*
 - ❖ Construct first northbound right turn lane*
 - ❖ Construct first exclusive eastbound left turn lane*
 - ❖ Modify existing traffic signal*
- Vineyard Avenue (NS) at Walnut Street (EW)
 - ❖ Install a traffic signal*
 - ❖ Construct third northbound through lane*

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- ❖ Construct first southbound right turn lane*
- ❖ Construct second eastbound left turn lane*
- Vineyard Avenue (NS) at Riverside Drive
 - ❖ Construct first and second northbound left turn lane*
 - ❖ Construct second and third northbound through lane*
 - ❖ Construct first northbound right turn lane*
 - ❖ Construct first and second southbound left turn lane*
 - ❖ Restripe existing southbound shared left-thru lane to first southbound through lane*
 - ❖ Construct second and third southbound through lane*
 - ❖ Construct second eastbound left turn lane*
 - ❖ Construct second eastbound through lane*
 - ❖ Construct first eastbound right turn lane*
 - ❖ Construct first westbound right turn lane*
 - ❖ Modify existing traffic signal*
- Carpenter Avenue (NS) at Schaefer Avenue (EW)
 - ❖ Construct first eastbound shared through-right turn lane*
 - ❖ Construct second westbound through lane*
- Carpenter Avenue (NS) at Edison Avenue (EW)
 - ❖ Construct second eastbound through lane*
 - ❖ Construct second westbound through lane*
 - ❖ Construct first westbound shared through-right turn lane*
- Hellman Avenue (NS) at Schaefer Avenue (EW)
 - ❖ Install a traffic signal*
 - ❖ Construct first northbound left turn lane*
 - ❖ Construct first northbound shared through-right turn lane*
 - ❖ Construct first southbound left turn lane*
 - ❖ Restripe existing southbound shared left-right turn lane to shared through-right lane*
 - ❖ Construct first eastbound left turn lane*
 - ❖ Construct first eastbound shared through-right turn lane*
 - ❖ Construct first westbound left turn lane*
 - ❖ Construct first westbound shared through-right turn lane*
- Hellman Avenue (NS) at Edison Avenue (EW)
 - ❖ Install a traffic signal*

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- ❖ Construct first northbound left turn lane*
- ❖ Construct first northbound shared through-right turn lane*
- ❖ Construct first southbound left turn lane*
- ❖ Construct first southbound shared through-right turn lane*
- ❖ Construct first eastbound left turn lane*
- ❖ Construct 2nd eastbound through lane*
- ❖ Construct first eastbound shared through-right turn lane*
- ❖ Construct first westbound left turn lane*
- ❖ Construct first westbound shared through-right turn lane*
- Archibald Avenue (NS) at SR-60 WB Ramps
 - ❖ Construct second westbound right turn lane*
 - ❖ Modify existing traffic signal*
- Archibald Avenue (NS) at Riverside Drive
 - ❖ Construct first southbound right turn lane*
 - ❖ Construct third eastbound through lane*
 - ❖ Construct first eastbound right turn lane*
 - ❖ Construct second westbound left turn lane*
 - ❖ Modify existing signal*
- Archibald Avenue (NS) at Chino Avenue (EW)
 - ❖ Construct first northbound right turn lane*
 - ❖ Construct second, third, and fourth southbound through lane*
 - ❖ Construct first and 2nd eastbound exclusive through lane*
 - ❖ Construct second westbound left turn lane*
 - ❖ Reconstruct westbound right turn lane into a shared westbound through/right*
 - ❖ Modify existing traffic signal*
- Archibald Avenue (NS) at Schaefer Avenue
 - ❖ Install a traffic signal*
 - ❖ Construct first and second northbound left turn lane*
 - ❖ Construct first and second northbound through lane*
 - ❖ Construct first southbound left turn lane*
 - ❖ Restripe existing southbound shared left-through lane to first southbound through lane*
 - ❖ Construct second and third southbound through lane*
 - ❖ Construct fourth southbound through lane**

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- ❖ Construct first southbound right turn lane*
- ❖ Construct first and second eastbound left turn lane*
- ❖ Construct first eastbound through lane*
- ❖ Construct first eastbound right turn lane*
- ❖ Construct first westbound left turn lane*
- ❖ Restripe existing westbound shared left-right lane to first westbound through lane*
- ❖ Construct second westbound through lane*
- ❖ Construct first westbound right turn lane*
- Archibald Avenue (NS) at The Avenue
 - ❖ Construct second northbound through lane*
 - ❖ Construct first northbound shared through-right turn lane*
 - ❖ Construct second southbound through lane*
 - ❖ Construct first southbound shared through-right turn lane*
- Archibald Avenue (NS) at Edison Avenue
 - ❖ Construct second northbound left turn lane*
 - ❖ Construct third northbound left turn lane**
 - ❖ Construct second northbound through lane*
 - ❖ Construct second southbound left turn lane*
 - ❖ Construct third and fourth southbound through lane*
 - ❖ Construct first southbound right turn lane*
 - ❖ Construct second eastbound left turn lane*
 - ❖ Construct second eastbound through lane*
 - ❖ Construct first eastbound free right turn lane*
 - ❖ Construct second westbound left turn lane*
 - ❖ Construct second and third westbound through lane*
 - ❖ Modify existing traffic signal*
- Archibald Avenue (NS) at Merrill Avenue (EW)
 - ❖ Install a traffic signal*
 - ❖ Construct second northbound left turn lane*
 - ❖ Construct second, third and fourth northbound through lane*
 - ❖ Construct first northbound right turn lane*
 - ❖ Construct first and second southbound left turn lane*
 - ❖ Construct second and third southbound through lane*

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- ❖ Construct first southbound right turn lane*
- ❖ Construct first eastbound left turn lane*
- ❖ Construct second and third eastbound through lane*
- ❖ Construct fourth eastbound through lane**
- ❖ Construct first eastbound right turn lane*
- ❖ Construct first and second westbound left turn lane*
- ❖ Construct second westbound through lane*
- ❖ Construct first westbound right turn lane*
- Archibald Avenue (NS) at Cloverdale Road (EW)
 - ❖ Construct second and third northbound through lane*
 - ❖ Construct first northbound right turn lane*
 - ❖ Construct second and third southbound through lane*
 - ❖ Construct second westbound left turn lane*
 - ❖ Construct third westbound left turn lane**
 - ❖ Modify existing traffic signal*
- Turner Avenue (NS) at Schaefer Avenue (EW)
 - ❖ Construct first southbound left turn lane*
 - ❖ Construct first southbound shared through-right lane*
 - ❖ Construct first eastbound left turn lane*
 - ❖ Construct first eastbound shared through-right lane*
 - ❖ Construct first westbound shared through-right lane*
- Turner Avenue (NS) at Edison Avenue (EW)
 - ❖ Construct first eastbound through lane*
 - ❖ Construct first eastbound shared through-right lane*
 - ❖ Construct first westbound through lane*
 - ❖ Construct first westbound shared through-right lane*
- Schaefer Avenue (NS) at Commercial Site Access No. 1
 - ❖ Construct first northbound shared through-right turn lane*
 - ❖ Construct first southbound shared through-right turn lane*
- Schaefer Avenue (NS) at Edison Avenue (EW)
 - ❖ Install a traffic signal*
 - ❖ Construct first northbound left turn lane*

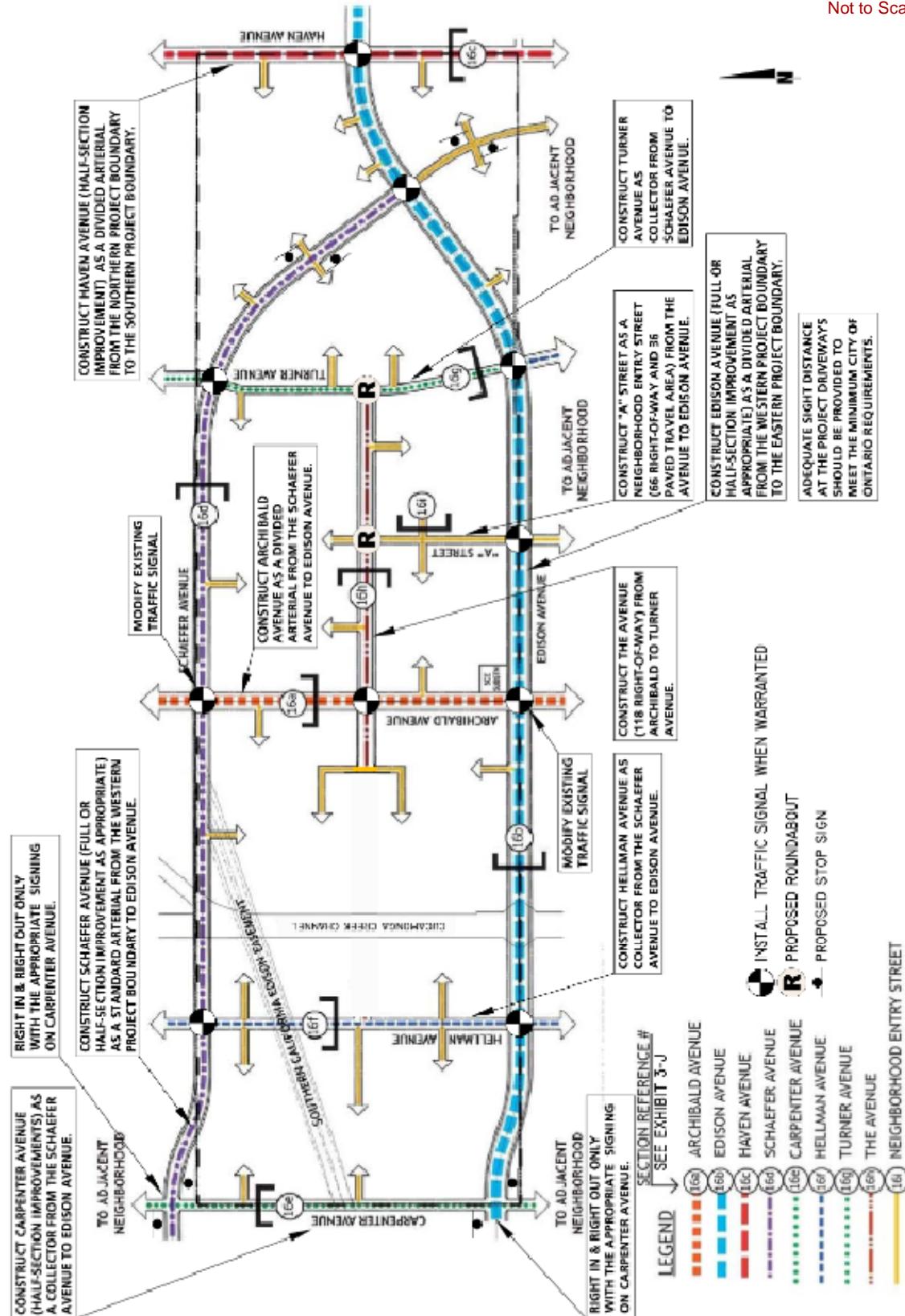
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- ❖ Construct first northbound shared through-right turn lane*
- ❖ Construct second and third southbound left turn lane*
- ❖ Construct first southbound shared through-right turn lane*
- ❖ Construct first eastbound left turn lane*
- ❖ Construct first eastbound through lane and first eastbound shared through-right turn lane*
- ❖ Construct first westbound left turn lane*
- ❖ Construct first westbound through lane and first eastbound shared through-right turn lane*
- Haven Avenue (NS) at Riverside Drive (EW)
 - ❖ Construct first northbound left turn lane*
 - ❖ Construct second northbound through lane*
 - ❖ Construct first and second northbound right turn lane*
 - ❖ Construct first and second southbound left turn lane*
 - ❖ Restripe existing southbound shared left-through lane to first southbound through lane*
 - ❖ Reconstruct southbound right turn lane into a shared southbound through-right turn lane*
 - ❖ Construct second eastbound left turn lane*
 - ❖ Construct first southbound exclusive through lane*
 - ❖ Construct second westbound left turn lane*
 - ❖ Modify existing traffic signal*
- Haven Avenue (NS) at (realigned) Edison Avenue (EW)
 - ❖ Install a traffic signal*
 - ❖ Construct first northbound left turn lane*
 - ❖ Construct first northbound shared through-right turn lane*
 - ❖ Construct first southbound left turn lane*
 - ❖ Construct second southbound through lane*
 - ❖ Construct first southbound right turn lane*
 - ❖ Construct first eastbound left turn lane*
 - ❖ Construct first, second and third eastbound through lane*
 - ❖ Construct first eastbound right turn lane*
 - ❖ Construct first and second westbound left turn lane*
 - ❖ Construct first and second westbound through lane*
 - ❖ Construct first westbound shared through-right turn lane*
- Hamner Avenue (NS) at Edison Avenue (EW)
 - ❖ Install a traffic signal*

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- ❖ Construct first and second northbound left turn lane*
 - ❖ Construct third northbound through lane*
 - ❖ Construct first northbound right turn lane*
 - ❖ Construct first and second southbound left turn lane*
 - ❖ Construct third southbound through lane*
 - ❖ Construct fourth southbound through lane*
 - ❖ Construct first southbound right turn lane*
 - ❖ Construct first and second eastbound left turn lane*
 - ❖ Construct first, second, and third eastbound through lane*
 - ❖ Construct first eastbound right turn lane with overlap phasing*
 - ❖ Construct first and second westbound left turn lane*
 - ❖ Construct first, second, and third westbound through lane*
 - ❖ Construct first westbound right turn lane*
- Interstate 15 Southbound Ramps (NS) at Edison Avenue (EW)
 - ❖ Install a traffic signal***
 - ❖ Construct first and second southbound left turn lane***
 - ❖ Construct first southbound right turn lane***
 - ❖ Construct first, second, and third eastbound through lane***
 - ❖ Construct first eastbound free right turn lane***
 - ❖ Construct first and second westbound through lane***
 - ❖ Construct first westbound free right turn lane***
 - Interstate 15 Northbound Ramps (NS) at Edison Avenue (EW)
 - ❖ Install a traffic signal***
 - ❖ Construct first northbound left turn lane***
 - ❖ Construct first northbound shared left-right turn lane***
 - ❖ Construct first, second, and third eastbound through lane***
 - ❖ Construct first eastbound right turn lane***
 - ❖ Construct first and second westbound left turn lane***
 - ❖ Construct first, second, and third westbound through lane***

The TIS recommendations relative to improvements needed to provide adequate LOS within the Study Area are shown in Figure 5.15-4.



Circulation Recommendations

The Avenue / New Model Colony



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Traffic Associated with Manure Removal

As discussed in Section 5.7 (Hazards and Hazardous Materials), approximately 1.4 million cubic yards (CY) of manure will be removed from the Project Site.(Hunsaker and Associates 2006) and transported to area landfills for disposal. Assuming the capacity of the trucks transporting the manure is 20 CY, a total of 70,000 truckloads ($1,400,000 \text{ CY manure}/20 \text{ CY per truckload} = 70,000 \text{ truckloads}$) will be required.

Assuming site preparation takes place over a seven year period (commencing in 2007 and completed in 2014) with 250 working days per year, an average of 40 truckloads per day will be generated ($70,000 \text{ truckloads}/(7 \text{ years} \times 250 \text{ working days per year})$). Assuming an eight hour workday, manure removal will result in five truckloads per hour (40 truckloads per day/8 hours per day). Since each truckload must arrive and then depart the Project site, this results in approximately 10 trips per hour (1 truckload = 2 trips).

Impact criteria threshold per the CMP is 50 peak hour trips. It is reasonable to expect that most trucking activity will take place outside of peak hour traffic, particularly the PM peak hour, thus the impacts associated with manure removal (an average of 10 trips per hour) is considered to be less than significant. Additionally, the manure removal trips would be a part of the overall trips generated by the Project, as once the site preparation work is completed, the trips associated with manure removal will cease.

Impacts Related to Changes in Air Traffic Patterns

The Project Site is located approximately two miles northeast from the nearest airport, Chino Airport. The Project does not include any components that could alter air traffic patterns at Chino or any other airport. This issue is considered to be less than significant and no mitigation measures are required.

Impacts Related to Hazards Due to a Design Feature or Incompatible Equipment

There are no design features associated with the Project that would result in design hazards. All roadway improvements would be constructed in accordance with City guidelines. Therefore, no significant impacts related to a transportation design hazard would occur.

The Project and the entire NMC will be built out over time. The Project Site and surrounding area is transitioning from agriculture/dairy uses to urban uses. However, as there are still existing dairy farms and cropland, farm equipment will be in use as build-out occurs. Such equipment may use local roadways as long as the dairies are operating in the area. However, agricultural-related traffic is steadily declining as development takes place. With the development of the residential, commercial, and school uses, the means of automobile conveyance with relation to design features could be a potential problem.

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However with the implementation of the Project Mitigation Measures impacts related to incompatible equipment will be less than significant.

Impacts Related to Inadequate Emergency Access

Development of the Project Site will improve emergency access by completing improved road segments in the Project vicinity. The Project Site will be developed per all standard City conditions of approval, and permits related to emergency access. This issue is considered to be less than significant and no mitigation measures are required.

Impacts Related to Inadequate Parking Capacity

The Project proposes parking in full conformance with City regulations. No significant impacts with respect to parking would occur and no mitigation measures are required.

Impacts Related to Conflicts with Adopted Policies, Plans, or Programs Supporting Alternative Transportation

As discussed in Section 5.15-6 Design Considerations, the Project was designed to emphasize pedestrian movement by providing a variety of residential housing types within easy walking distance to recreational amenities, retail commercial uses, and school sites. Connectivity within the Project Site is provided through a system of pedestrian and bicycle trails linking residential neighborhood parks to the retail and commercial land use areas. Additionally, the Master Circulation Plan of The Avenue Specific Plan Project component includes the provision of bus turnouts on Edison Avenue, Schaefer Avenue, and Archibald Avenue to the satisfaction of the City and Omnitrans. This issue is considered to be less than significant and no mitigation measures are required.

5.15.8 Cumulative Impacts

A cumulative traffic analysis has been provided with the 2015 analysis in the previous sections in Table 5.15-10. As indicated in this table, with improvements in place, all the intersections analyzed will operate at LOS D except for the five intersections identified below, which would operate at below established City standards.

- Euclid Avenue (NS) at Edison Avenue (EW)
- Archibald Avenue (NS) at Schaefer Avenue (EW)
- Archibald Avenue (NS) at Edison Avenue (EW)

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- Archibald Avenue (NS) at Merrill Avenue (EW)
- Archibald Avenue (NS) at Cloverdale Road (Limonite Avenue) (EW).

Significant and unavoidable impacts to these five intersections through the Year 2015 would result after mitigation measures have been applied. However, the traffic model for build-out of the NMC identified that these five intersections will operate at acceptable levels of service beyond the Year 2015. This is due to the future redistribution of traffic expected beyond Year 2015. As a result, these five intersections would operate at or above City and CMP standards beyond the Year 2015.

The necessary off-site improvements will, with the exception of the off-site facilities identified as Project Mitigation Measures, be funded primarily through the NMC Development Impact fee (DIF) program. Since the Project will contribute to the installation of Study Area improvements through the payment of DIF program fees, or contribute on a fair share basis toward the cost of the off-site improvements not included in the City fee program implementation of the Project is not anticipated to result in cumulative impacts relative to transportation or circulation once all of the NMC transportation facilities are in place.

5.15.9 Mitigation Measures

NMC Mitigation Measures

The NMC Mitigation Measures identify City obligations and are thus not applicable to the Project.

Project Mitigation Measures

- T-1 The Project developers shall pay the DIF Program Traffic Funding Contribution set forth on Table 5.15-4 consistent with the requirements contained in the Dif Program.
- T-2 The Project developers shall pay the Additional Fair Share Project Improvement Cost as set forth on Table 5.15-5.
- T-3 Right-in and right-out only access with appropriate signing on Carpenter Avenue for the intersection of Carpenter Avenue at Schaefer Avenue.
- T-4 Construct Carpenter Avenue (half-section improvements) as a Collector from Schaefer Avenue to Edison Avenue.
- T-5 Construct Hellman Avenue as Collector from Schaefer Avenue to Edison Avenue.

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- T-6 Construct Archibald Avenue as a Divided Arterial from Schaefer Avenue to Edison Avenue.
- T-7 Construct "A" Street as a Neighborhood entry Street (66-feet right-of-way and 36-feet paved travel area) from The Avenue to Edison Avenue.
- T-8 Construct Turner Avenue as Collector from Schaefer Avenue to Edison Avenue.
- T-9 Construct Haven Avenue (half-section improvements) as a Divided Arterial from the northern Project boundary to the southern Project boundary.
- T-10 Construct Schaefer Avenue (full or half-section improvement as appropriate) as a Standard Arterial from the western Project boundary to Edison Avenue.
- T-11 Construct The Avenue (118' right-of-way) from Archibald to Turner Avenue.
- T-12 Construct Edison Avenue (full or half-section improvements as appropriate) as a Divided Arterial from the western Project boundary to the eastern Project boundary.
- T-13 Right-in and right-out only access with the appropriate signing on Carpenter Avenue for the intersection of Carpenter Avenue at Edison Avenue.
- T-14 Modify the existing traffic signals at the intersections of Archibald Avenue at Schaefer Avenue and Archibald Avenue at Edison Avenue.
- T-15 The applicant shall pay their proportionate share (prior to building permit issuance) for or install (prior to occupancy of any structure), the above transportation improvements needed to serve the Project. The determination of whether the payment of proportionate share or installation of the improvements is required shall be made by the City Engineer at the time of Tentative Tract Map approval. The method for determining proportionate share is identified in the TIS,
- T-16 Adequate sight distance at the Project driveways shall be provided to meet the minimum City requirements.

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5.15.10 Level of Significance After Mitigation

Development per The Avenue Specific plan component of the Project will result in significant and unavoidable impacts to the intersections of Euclid Avenue (NS) at Edison Avenue (EW) and Archibald Avenue (NS) at Schaefer Avenue (EW), Edison Avenue (EW), Merrill Avenue (EW), and Cloverdale Road (Limonite Avenue) (EW) until Year 2015, The Avenue Specific Plan Project component is not anticipated to result in cumulative impacts relative to transportation or circulation once all of the NMC transportation facilities are in place. A Statement of Overriding Considerations will be required before approval of The Avenue Specific Plan component of the Project.

5.16 UTILITIES/SERVICE SYSTEMS

Information in this section is based on the following documents all of which are incorporated by reference:

- New Model Colony Final EIR, City of Ontario, 1997.
- Initial Study/Mitigated Negative Declaration, New Model Colony Infrastructure Master Plans, City of Ontario, August 2002.
- Water Supply Assessment and Written Verification of Sufficient Water Supply for the New Model Colony, Albert A. Webb Associates, October 27, 2004.
- Sewer Master Plan, City of Ontario, January 2001.

5.16.1 Existing Conditions

Water Service

The NMC Final EIR evaluated potential impacts to increased water demand resulting from development of the NMC. The NMC Final EIR indicated that build-out of the NMC would increase the demand for additional water by approximately 31,000 acre-feet per year (AFY) and further stated that if the water-related policies contained in the NMC General Plan were implemented, the City would be able to develop a water supply in excess of the anticipated demand. The applicable NMC General Plan policies are related to the provision of water supply sources, storage, transmission and distribution mains, infrastructure maintenance; and ensuring that the costs associated with provision of needed water infrastructure improvements are borne by those who benefit.

Subsequent to certification of the NMC Final EIR, an Initial Study/Mitigated Negative Declaration for water, wastewater, and drainage infrastructure plans in the NMC was prepared (Infrastructure Plans IS/MND) to evaluate the potential environmental impacts associated with implementing the NMC master plans for water, wastewater, and drainage. The Infrastructure Plans IS/MND reflected the conclusions in the NMC Final EIR with respect to water supply and concluded that implementation of the NMC General Plan water source related policies along with implementation of the Water Master Plan (WMP), which includes recommendations of the Chino Basin Watermaster's Optimum Basin Management Program (OBMP), significant environmental impacts would result from implementation of the WMP.

WMP recommendations relative to water sources for the City include:

- Expanding groundwater production from the Chino Groundwater Basin

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-
- Obtaining San Antonio Company Shares
 - Obtain increased shares of the Water Facilities Authority (WFA) plant
 - Obtaining first-phase OBMP desalter water
 - Recycled water from the Inland Empire Utilities Agency Regional Plant No. 1
 - Obtaining water from the Bunker Hill groundwater basin

The Infrastructure Plans IS/MND included a mitigation measure to ensure coordination between the City and adjacent jurisdictions for regional infrastructure improvements, which, if implemented, would eliminate potentially significant impacts related to water infrastructure.

The Infrastructure Plans IS/MND identified a need for additional environmental review at the time individual specific plans in the NMC are proposed for development. The Infrastructure Plans IS/MND stated that development projects proposing large residential components would be required to verify the availability of a supply of water in order to serve the proposed development.

Water Supply and Distribution

The Utilities Department of the City Public Works Agency supplies water to the entire City. As discussed in Section 5.8 (Hydrology and Water Quality) the City's water supply is derived from a combination of imported surface water from the Metropolitan Water District of Southern California (MWD) and the Inland Empire Utilities Agency (IEUA); and City-owned and operated wells, which extract groundwater from the Chino Groundwater Basin. Existing and ultimate (Year 2030) water demand for the entire City is summarized in Table 5.16-1.

Table 5.16-1 Existing and Future Water Demands

Portion of City	Existing	Ultimate (Year 2030)	Increase
Pre-NMC	42,737 AFY	50,867 AFY	8,130 AFY
NMC	19,000 AFY	31,193 AFY	12,193 AFY
Total	61,737 AFY	82,060 AFY	20,323 AFY

Pre-NMC refers to the geographic area of the City prior to the NMC annexation
AFY = Acre-feet-per-year. One acre-foot = 325,829 gallons

Source: Albert A. Webb Associates, *Water Supply Assessment and Written Verification of Sufficient Water Supply for the New Model Colony*, October 2004. Table 8

The NMC is not served by a domestic water system as all domestic water is provided by onsite wells. Note that although current water demand in the NMC is estimated to be 19,000 AFY, this source is from

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private wells and is assumed to be zero in terms of demands from City sources. Thus the total water demands to be supplied from the City's ultimate domestic water system are expected to nearly double from approximately 43,000 AFY (existing) to 82,000 AFY in 2030 (Albert A. Webb Associates, 2004).

Pressure Zones

The City's domestic water system is divided into four pressure zones: 13th Street Zone, 8th Street Zone, 4th Street Zone, and Phillips Street Zone. The NMC will be served by an expansion of the Phillips Street Zone and the newly created Francis Street Zone. The Project Site is located within the Francis Street Zone, which will be supplied by a combination of seven new groundwater extraction wells supplemented with imported water.

Domestic Water Lines

There is an existing 12-inch Chino Desalter Authority (CDA) water main that bisects the Project Site in Archibald Avenue which is used to supply private well water for the dairies in the vicinity of the Project Site. This line will not be tied into the proposed domestic lines for the Project as the NMC Master Planned water facilities in the vicinity of the Project Site are shown in Figure 3-12 and include the 24-inch NMC Francis Loop Main and a 12-inch NMC backbone line located in Edison Avenue, Schaeffer Avenue, and Hellman Avenue. The Avenue Specific Plan Domestic Water Master Plan includes 8-inch lines in Carpenter Avenue and "A" Street and 12-inch lines in The Avenue and Turner Avenue (Figure 3-12).

Recycled (Reclaimed) Water Lines

There is an existing 30-inch Chino Basin Municipal Water District (CBMWD) recycled water line in Carpenter Avenue at the west end of the Project Site, which will provide the initial recycled water service to the Project. CBMWD proposes a new 48-inch recycled water line in Carpenter Avenue. NMC Backbone recycled water facilities in the vicinity of the Project Site are shown in Figure 3-13 and include: 12-inch and 16-inch lines in Schaeffer Avenue, 12-inch and 16-inch lines in Edison Avenue, 8-inch line in Hellman Avenue, 20-inch line in Archibald Avenue, and a 6-inch line in Haven Avenue. Backbone recycled water facilities per The Avenue Specific Plan Recycled Master Water Plan (Figure 3-12) includes 6-inch lines in The Avenue west of Archibald Avenue to the elementary school site and a 6-inch line in Turner Avenue.

Wastewater

The NMC Final EIR evaluated potential impacts related to the increased demand for wastewater treatment that would result from build-out of the NMC. The NMC Final EIR stated that the existing contractual arrangement between the City and the Chino Basin Municipal Water District (now known as the Inland Empire Utilities Agency or IEUA) to provide wastewater treatment services would be amended

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to include the NMC. In addition, the NMC identified several potential options for providing wastewater treatment for the NMC, which included combinations of conveyance facilities and treatment plants. Potential entities identified were the IEUA, the Los Angeles County Sanitation Districts, the Orange County Sanitation District, and the Western Riverside County Wastewater Authority.

The NMC Final EIR identified the CBMWD's planned wastewater Regional Treatment Plant RP-5 (RP-5) as the preferred option. Currently, 12 million-gallons-per-day (MGD) of wastewater are treated at RP-5. The current maximum capacity is 15 MGD and ultimately will treat up to 60 MGD. This treatment plant is planned to replace Regional Treatment Plant RP-2 and would have sufficient capacity for the entire NMC. In addition, a planned Kimball Avenue Interceptor would convey wastewater flows from the NMC to RP-5. The Kimball Avenue Interceptor currently conveys 2.5 to 3 MGD and has an existing capacity of 19 MGD on its eastern reach and 30 MGD on its western reach. The western reach ultimately joins RP-5. The NMC Final EIR further stated that until RP-5 is completed, there is sufficient capacity in the existing wastewater treatment system to accept the wastewater that would be generated by the NMC.

The Infrastructure Plans IS/MND reflected the statements in the NMC Final EIR regarding the provision of wastewater service and indicated that with the completion of RP-5, adequate wastewater treatment capacity for the NMC would exist. The Infrastructure Plans IS/MND also recommended a mitigation measure to ensure coordination between the City and adjacent jurisdictions for regional infrastructure improvements. Implementation of this mitigation measure would eliminate potentially significant impacts related to infrastructure. The NMC Sewer Master Plan estimated the average wastewater dry weather flow generated by the development of the NMC would be 13.11 MGD.

The NMC does not have a system in place for the collection, treatment, and disposal of wastewater as treatment is accomplished through septic tanks and subsurface disposal fields. The proposed wastewater treatment system for the NMC is in various stages of development. In addition, sewer and trunk lines alignments in conformance with the NMC Sewer Master Plan are in various stages of development and funding. Existing wastewater facilities in the vicinity of the Project Site include 33-inch and 36-inch mains in Archibald Avenue and a 33-inch main in Vineyard Avenue; both of which connect to the IEUA Kimball Interceptor (60-inch) located in Kimball Avenue to the south.

Solid Waste

The City Public Works Agency offers refuse and recycling collection service to its residents. The City serves approximately 30,000 single-family homes and offers several residential programs. Among the

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programs offered are the roll-out services for elderly and disabled residents and brush pick-up by appointment. Separate containers are provided to residents for refuse, green waste, and recyclable materials. The City also offers several types of services for commercial and industrial facilities.

Currently, the City contracts with a private solid waste disposal company, Burrtec Waste Industries. Solid waste collected by the City is taken to the West Valley Material Recovery Facility (West Valley MRF) transfer facility operated by Burrtec Waste Industries. The West Valley MRF currently processes 4,000 tons-per-day (TPD) of solid waste. Current capacity at this facility is 5,000 TPD and ultimately, upon completion of expanding the facility, it will have a maximum capacity of 7,000 TPD. Once processed through the West Valley MRF, the solid waste is then transported to an appropriate final disposal location. Solid waste currently generated in the City is disposed at the El Sobrante Landfill located in the City of Corona. This facility is operated by Riverside County Solid Waste Management (Envicom 1997). Existing capacity at the El Sobrante Landfill is 185 million cubic yards and has a remaining capacity of approximately 3.6 million cubic yards. An expansion to this facility is currently underway to increase the existing capacity. Additionally, depending on contractual arrangements between Burrtec Waste Industries and various other landfills, solid waste collected at the Project Site and transferred to the West Valley MRF may be transferred to a landfill other than El Sobrante.

Electricity

Electricity is one of two major types of energy consumed in the City. Electrical power is provided by Southern California Edison (SCE), which is generated from a combination of oil, natural gas, hydroelectric, nuclear, and renewable resources such as wind and solar energy. Most of the City's energy is consumed by residential, commercial, industrial, agricultural, and transportation uses. Electrical power in the vicinity of the NMC is delivered to SCE's bulk power station in the City of Chino, south of the Project Site, and distributed through the electrical substations by a network of 12 kilovolt power lines.

According to the NMC Final EIR, build-out of the NMC would result in a demand for 303,564 megawatt hours per year of electricity. Of this total demand, residential land uses would account for approximately 28 percent, commercial and industrial land uses would account for approximately 24 percent, and the remainder for public and other land uses. The NMC Final EIR stated that for electrical substations that serve the NMC were designed in a manner that could accept a future increase in demand without the requirement to expand any of the substations or construct new substations. The existing distribution systems are adequate to accept the increased demand that would result from build-out of the NMC and that an excess supply of electricity is available.

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Natural Gas

In addition to electricity, natural gas is the second major type of energy consumed in the City. The primary natural gas provider in the City is the Southern California Gas Company (SCGC). Current estimates of overall energy consumption indicate that natural gas is consumed primarily by the City's residential land uses. Two underground transmission pipelines bisect the NMC. One of these is located in the Riverside Drive right-of-way north of the Project Site. However, this pipeline does not provide natural gas to the NMC. The second transmission pipeline that bisects the NMC in an east-west alignment would provide natural gas to the NMC through four regulating stations.

5.16.2 Issues Identified During Public Scoping Meeting

During the public scoping meeting, questions were asked regarding the amount of infrastructure that will be installed prior to building, and how infrastructure will be phased.

Several questions were asked regarding the use of recycled water in the Project vicinity. Questions included:

- Will reclaimed water be used for landscaping;
- Will there be the ability to separately meter reclaimed water distribution; and
- Will reclaimed water be used during construction?

5.16.3 Issues Identified in NOP and Amended NOP Response Letters

The Jurupa Community Services District (provider of water and sewer services) transmitted a letter dated August 16, 2005 (and contained in Appendix A of this EIR) in response to the NOP requesting that they remain on the distribution list for the Draft EIR. SCE transmitted two letters in response to the NOP and Amended NOP dated August 15, 2005 and August 29, 2005 identifying SCE concerns with the Project. The SCE comment letters are included in Appendix A of this EIR. The SCE letters expressed a concern with the potential interference with SCE easement rights and facilities on the Project Site. The letter dated August 29, 2005 detailed specific design and documentation requests. These requests include the expansion of the Project description to include any required construction of new facilities to serve the Project or the relocation of existing facilities and the potential impediments to maintenance of transmission lines.

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5.16.4 Thresholds of Significance

Impacts on utilities systems/services would be considered potentially significant if the proposed Project would:

- Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board;
- Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects;
- Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects;
- Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed;
- Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments;
- Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs; and
- Comply with federal, state, and local statutes and regulations related to solid waste.

5.16.5 Project Compliance with Existing Regulations

The California Integrated Waste Management Act of 1989 (AB 939) redefined solid waste management in terms of both objectives and planning responsibilities for local jurisdictions and the State. AB 939 was adopted in an effort to reduce the volume and toxicity of solid waste that is landfilled and incinerated by requiring local governments to prepare and implement plans to improve the management of waste resources. AB 939 required each of the cities and unincorporated portions of the counties to divert a minimum of 25% of the solid waste landfilled by 1995 and 50% by the year 2000. To attain goals for reductions in disposal, AB 939 established a planning hierarchy utilizing new integrated solid waste management practices. These practices include source reduction, recycling and composting, and

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environmentally safe landfill disposal and transformation. Other state statutes pertaining to solid waste include compliance with the California Solid Waste Reuse and Recycling Act of 1991 (AB 1327), which requires adequate areas for collecting and loading recyclable materials within the Project Site. The Project proponent shall provide adequate areas for the collection and loading of recyclable materials for each single-family residence.

The proposed Project is required to comply with Senate Bills 221 and 610. Senate Bills (SB) 221 and 610 were signed into State law with an effective date of January 1, 2002. SB 221 prohibits cities or counties from approving a tentative tract map, parcel map, or redevelopment agreement for a residential development project of greater than 500 dwelling units without a written verification of sufficient water supply. SB 610 amended existing legal requirements for confirmation of water supply sufficiency as a condition of approval for development projects as part of the environmental review process. The confirmation of water supply sufficiency is achieved through an analysis of the water purveyor's existing and future water sources and existing and projected water demand in relation to a "project" as defined by SB 610, resulting in the production of a project-specific Water Supply Assessment (WSA). The WSA also requires additional analysis if any portion of the water purveyor's water supplies includes groundwater. The requirements of SB 610 are triggered for projects going through the CEQA process. During the CEQA process, the city or county processing the project is required to request a WSA from the identified water purveyor for any "project," as defined by SB 610. SB 610 allows the water purveyor 90 days to prepare the project-specific WSA. SB 610 defines a "project" as:

- A residential subdivision of 500 dwelling units or more;
- A shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet (sq. ft.) of floor space;
- A commercial office building employing more than 1,000 persons or having more than 250,000 sq. ft. of floor space;
- A hotel or motel having more than 500 rooms;
- An industrial, manufacturing, or processing plant or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 sq. ft. of floor space; or

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- A mixed use project including one or more of the aforementioned projects or any other project demanding an amount of water equivalent to or greater than the amount of water required by a 500 dwelling unit project.

A WSA has been prepared for the entire NMC in accordance with SB 221 and 610. The WSA confirms that water supply is available to the Project from the purveyor's existing and future entitlements. The Project will be required to construct all sewer, water, and other utility systems pursuant to the standards and specifications of the provider of each utility and secure permits to tie into each line from IEUA and City, as appropriate. Prior to the use of recycled water, an Engineers Report prepared by a qualified engineer registered in California with wastewater treatment experience must be submitted to and approved by the City, California Regional Water Quality Control Board, and the Department of Health Services. The Engineers Report will describe the manner by which the project will comply with the Water Recycling Criteria (CCR Title 22, Sections 60301 through 60355).

5.16.6 Design Considerations

The Avenue Specific Plan component of the Project includes a Domestic Water Plan, a Recycled Water Master Plan, and a Sewer Master Plan. These Master Plans are consistent with City Plans and policies.

5.16.7 Project Impacts

Water Service

Implementation of the Project would convert the Project Site from agricultural uses to urban uses that would result in an additional demand for domestic water in excess of the existing agricultural consumption rate. Since no data is available that quantifies the existing consumption rate on the Project Site, as the Site is supplied by private wells, water consumption has been estimated.

Two multipliers were developed to estimate water consumption. Section 4.0 of the NMC General Plan stated that as land is converted from agricultural production to the urban-type uses proposed for the NMC, the City would be credited with an additional 1.3 AFY per acre from the Overlying Agricultural Pool (Envicom 1997). Subsequent to certification of the NMC Final EIR, the transfer rate has increased to 2.0 AFY (Maurizio 2006). Using this transfer rate, existing water consumption on the Project Site would be calculated at 2.0 AFY per acre, which results in an estimated consumption of 1,142 AFY (571 acres x 2.0 AFY/acre). The second method of estimating water consumption on the Project Site entails using the

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estimated consumption rate of 19,000 AFY for the entire NMC, as identified in the WSA, divided by the total acreage in the NMC (8,200) which results in a demand of 2.3 AFY per acre. Using this multiplier the estimated water consumption for the Project Site is 1,313 AFY (571 acres x 2.3 AFY/acre). Projected daily water demand for the Project at build-out is presented in Table 5.16-2.

Table 5.16-2 Projected Domestic Water Demand at Build-out

Land Use	Area* (acres)	Generation Factor* (GPM/acre)	Total Demand (AFY)
Low Density Residential	470	2.71	2,057
Medium Density Residential	10	2.82	45
Commercial	30	1.57	76
School Sites	30	1.58	76
Totals	30	Not Applicable	2,254

*Net acreage per The Avenue Specific Plan, September 2006
**Generation factors per Albert A. Webb Associates, Water Supply Assessment and Written Verification of Sufficient Water Supply for the New Model Colony, October 2004. Table 8
GPM = gallons per minute
AFY = acre feet per year. One acre foot = 325,829 gallons

As indicated in Table 5.16-2, a full build-out projected domestic water demand for the Project is 2,254 AFY. As previously discussed, build-out of the NMC would result in an increase in consumption of domestic water of approximately 31,000 AFY (Table 5.16-1). Projected domestic water demand at Project build-out represents approximately seven percent of the total NMC demand.

Domestic Water Supply

As previously discussed the Project is subject to and must comply with the provisions of SB 221 and SB 610. Since development per the NMC General Plan will result in the types of projects subject to Section 10912 of the Water Code, a WSA was prepared for the entire NMC, including the Project Site. The WSA stated the City's intent was for the WSA to serve as written verification for all developments within the NMC.

The City Council adopted the Urban Water Management Plan Year 2000 Update (UWMP), prepared by the IEUA, on November 20, 2001 (Ordinance No. 2500). The UWMP is consistent with the City's Water Master Plan as well as the OBMP being implemented by the Chino Basin Watermaster. The UWMP addresses a City-wide water demand of 82,000 AFY, which includes the 31,000 AFY for the NMC. The UWMP and the water demands at build-out were incorporated into the WSA. The UWMP identified groundwater extracted, from the Chino Basin, recycled water from the IEUA; and imported water from

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MWD (which obtains water from the Colorado River and from Northern California via the State Water Project) as potential water sources.

Section 10910(h) of the Water Code allow the City to rely on a previously prepared WSA if a project meets all of the following criteria:

- The project is part of a larger project for which an assessment was prepared;
- The data used to create the assessment is still accurate; and
- The assessment found sufficient water for the project.

The WSA made the following determinations:

- The City is the identified public water supplier for the NMC and, therefore, the project site;
- The projected water demand for the NMC is 31,000 AFY;
- The water demand for the NMC was included in the UWMP prepared by the IEUA, which was adopted by the City;
- The City's existing water supply in 2004 is 71.6 MGD while the maximum demand is 64.2 MGD. The projected water supply is 166.1 million gallons per day (MGD) and the maximum demand is projected to be 100.9 MGD; and
- The City has water rights to the Chino Groundwater Basin and capacity rights of 25 MGD in the WFA Treatment Plant. The City has also contracted for 5,000 AFY from the Chino Desalter Authority. The projected reclaimed water use is 7.4 MGD by the year 2025.

The WSA found that the City has sufficient water supply to provide water to the NMC of which the Project is a part, during normal, single dry, and multiple dry years during a 20-year projection, in addition to meeting the City's existing and planned future uses. Therefore, since the WSA determined that a sufficient water supply is available to support the proposed development of the subareas within the NMC, of which the Project is a part, less than significant impacts to water supply would result from Project implementation.

Recycled (Reclaimed) Water Supply

Since recycled water is not currently used on the Project Site, implementation of the Project would result in an increase in the use of reclaimed water. Table 5.16-3 presents the estimated demand for recycled water at Project build-out.

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Table 5.16-3 Projected Recycled Water Demand at Build-out

Land Use	Area* (acres)	Generation Factor** (GPD/acre)	Total Demand (AFY)
Parks	21	3,412	71,652
Landscaped Buffers and Medians	40	3,412	136,480
Totals	61	3,412	208,132

*Net acreage per The Avenue Specific Plan, September 2006
**Generation factors per Albert A. Webb Associates, Water Supply Assessment and Written Verification of Sufficient Water Supply for the New Model Colony, October 2004. Table 8
GPM = gallons per minute
AFY = acre feet per year. One acre foot = 325,829 gallons

The NMC General Plan (Section 4) identifies an existing excess of reclaimed water production from wastewater treatment plants. The proposed Project is part of the NMC General Plan, therefore less than significant impacts would result from the proposed demand for reclaimed water use on the Project Site.

Domestic Water Infrastructure

As described in Section 3.5.3 of this EIR, new water facilities will be installed per The Avenue Specific Plan Domestic Water Master Plan. As previously described in this section, a new pressure zone, the Francis Street Pressure Zone, will be created to serve the majority of the NMC. According to Table 6-9 of the Water Master Plan, the new Francis Street Pressure Zone would be balanced whereby demands from the system would equal supplies to the system. Therefore, with the installation of the NMC-programmed infrastructure and the infrastructure proposed by The Avenue Specific Plan, less than significant impacts to domestic water infrastructure and conveyance would result from Project implementation.

Reclaimed Water Infrastructure

As described in Section 3.5.4 of this EIR, new recycled (reclaimed) water facilities will be installed per The Avenue Specific Plan Recycled Water Master Plan. As these reclaimed water mains are part of the NMC-programmed infrastructure identified for the ultimate build-out of the NMC, no additional facilities are required beyond those previously identified.

Wastewater Treatment Facilities

The Project would convert the Project Site from agricultural uses to urban uses that would result in additional demand and a different method for wastewater treatment. The development of the Project at full build-out would result in an estimated demand for wastewater treatment of 838,020 gallons-per-day (GPD) as shown in Table 5.16-4. Sewage will be conveyed to the south to the IEUA Kimball Interceptor in Kimball Avenue. The Kimball Interceptor has been designed to accept 26.46 MGD at Baker Avenue, and 35.05 MGD at Euclid Avenue. Because the existing wastewater treatment system has capacity to

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accept the projected wastewater flows from the entire NMC including the Project, less than significant impacts to wastewater treatment capacity would result from Project implementation.

Table 5.16-4 Estimated Wastewater Services Demands

Land Use	Units/Area	Generation Factor	Total Demand (GPD)
Residential	2,326 DU	270 GPD/DU	628,020
Community Commercial	30.0 AC	3,000 GPD/AC	90,000
Schools	30.0 AC	4,000 GPD/AC	120,000
Total	838,020 GPD		
DU = Dwelling unit SF = Square feet lbs. = Pounds lbs./SF/day = Pounds per square feet per day TPD = Tons per day			

Solid Waste

The Project would convert the area from predominantly agricultural uses to urban uses that would result in increased demand for solid waste services. Table 5.16-5 provides an estimate of the projected demand for solid waste services at build-out of the Project. The proposed Project would generate an approximate total demand of 17.92 tons per day (TPD). The West Valley MRF is a fully permitted 5,000 TPD facility. Based on the estimated 398 tons per day that would result from the build-out of the NMC, sufficient excess capacity exists at the West Valley MRF to accept the solid waste generated by the proposed Project. Since the West Valley MRF has excess processing capacity, less than significant impacts to solid waste facilities would result from implementation of the proposed Project.

Table 5.16-5 Projected Daily Solid Waste Generation

Land Use	Units/Area	Generation Factor	Total Demand (TPD)
Residential	2,326 DU	12.23 lbs./DU/day	14.22
Schools	1,306,800 SF (30 Acres)	5 lbs./1,000 SF/day	3.26
Community Commercial	174,000 SF	5 lbs./1,000 SF/day	0.44
Total	17.92		
DU = Dwelling unit SF = Square feet lbs. = Pounds lbs./SF/day = Pounds per square feet per day TPD = Tons per day			

Approximately 1.4 million cubic yards of manure will be removed during Project Site preparation activities (Hunsaker and Associates 2006). It is estimated that approximately 20% of the upper most layer of

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organic waste will be salvaged and processed for reuse/resale. Organic recycling is a common practice when converting former agricultural lands into urban development. The IEUA, for example, maintains a composting facility in Chino, California. Key applications for compost organic materials are soil enhancement products and production of renewable energy. The remaining 80% of organic waste, however, is not suited for reuse (due to the repeated commingling of native soils) and will have to be disposed of at solid waste landfills. The County of San Bernardino has indicated that there is sufficient landfill capacity to accommodate disposal of solid waste associated with the proposed Project (Personal communication, Jackie Adams, County of San Bernardino, Department of Environmental Health). Cut and fill estimates prepared for Project construction indicate that there will be a shortage of fill and that approximately 179,940 cubic yards of fill will be imported to balance the graded Project Site (Hunsaker and Associates 2006). Therefore, there will be no impact to solid waste landfill facilities.

In addition to the estimated solid waste that would be generated from the proposed Project, it is anticipated that existing improvements on the Project Site would be demolished. Demolition waste debris has been specifically targeted by the State for diversion from the waste stream. Mandatory compliance with Section 12.63 of the City's Municipal Code and Recycling Program would conform to State diversion laws and reduce the amount of demolition waste entering landfills. Therefore, demolition debris resulting from the proposed Project would result in less than significant direct impacts in regards to solid waste.

Electricity

The Project would convert the area from predominantly agricultural uses to urban uses that would result in an increased demand for electricity in excess of the existing demand. The NMC Final EIR states that build-out of the NMC would result in a demand for 303,564 megawatt hours per year of electricity. Full build-out the NMC would result in an increase in demand for electrical service over the existing conditions to 15.3 million kilowatt hours per year as shown in 5.16-6 Southern California Edison is required to provide service to the proposed Project and coordination is typical between the applicant/developer and SCE to avoid any notable service disruptions during extension and upgrading of services and facilities. Therefore, less than significant impacts related to the provision of electrical service would result from implementation of the proposed Project.

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Table 5.16-6 Projected Annual Electrical Demand

Land Use	Units/Area	Generation Factor	Total Demand (Million KWH/YR)
Residential	2,326 DU	5,526.50 KWH/DU/YR	12.9
Schools	1,306,800 SF (30 Acres)	5,840 KWH/SF/YR	7.6
Community Commercial	174,000 SF	13.55 KWH/SF/YR	2.4
Total			22.9
KWH/DU/YR = Kilowatt hours/dwelling unit/year KWH/SF/YR = Kilowatt hours/square feet/year DU = Dwelling unit SF = Square feet			

Natural Gas

The proposed Project would result in an increased demand for natural gas over existing conditions.

Table 5.16-7 provides an estimate of the projected natural gas demand for build-out of the Project.

Table 5.16-7 Projected Annual Natural Gas Demand

Land Use	Units/Area	Generation Factor	Total Demand (Million CF/day)
Residential	2,326 DU	219.1 CF/day/DU	186.01
Schools	1,306,800 SF(30 AC)	110.0 CF/day/1,000 SF	52.47
Community Commercial	174,000 SF	110.0 CF/day/1,000 SF	6.99
Total			245.47
CF/day/DU = Cubic feet/day/dwelling unit CF/day/SF= Cubic feet/day/square feet SF = Square feet			

The proposed Project would result in the consumption of natural gas of approximately 245.47 million cubic feet per year.

SCGC is required to provide service to the proposed Project and coordination is typical between the applicant/developer and SCGC to avoid any notable disruption during extension and upgrading of services and facilities. This typical coordination would also ensure that the nature, design, and timing of natural gas system improvements are adequate to serve the project. Since the requirements for natural gas demand for the NMC, which would include the Project Site, were evaluated in the NMC Final EIR, implementation of the proposed Project would not result in a significant impact on natural gas services or facilities.

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5.16.8 Cumulative Impacts

Water Service

Implementation of the proposed Project in addition to all other related projects would increase the requirements for domestic and reclaimed water supply. However, the requirements for water supply have been adequately evaluated in the WSA prepared for the NMC. Therefore, the Project's contribution to cumulative impacts would be less than significant as the proposed Project would not generate the need for excess additional water supply or facilities that are not already planned.

Wastewater

Implementation of the proposed Project in addition to all other related projects would increase the demand for wastewater treatment. According to the Sewer Master Plan, the planned facilities would adequately serve the planned growth in the NMC vicinity. The Project's contribution of an estimated 0.83 MGD is not considered cumulatively considerable.

Solid Waste

Implementation of the proposed Project in addition to the other related projects would increase the amount of solid waste generated. Countywide, representing incorporated cities and unincorporated County areas, waste disposal increased slightly over 8% during the period 1995 to 2000. During this same period, the City increased its disposal tonnage from 222,595 tons in Year 1995 to 239,147 tons in Year 2000, representing an approximate 7% increase, slightly less than the Countywide average.

Provisions of the Integrated Waste Management Act of 1989, also known as AB 939, require the preparation of an Integrated Waste Management Plan (IWMP) that includes documentation of the State-mandated minimum 15-year aggregate disposal capacity for a landfill system. Currently, the Countywide disposal system exceeds the required minimum 15-year aggregate disposal capacity with a permitted and planned life of 29 years and a disposal capacity of 48 million tons. In addition, the City's current diversion rate is 37% and the majority of the jurisdictions within San Bernardino County are below the State-mandated diversion rate of 50%. If all jurisdictions within San Bernardino County achieve the State-mandated diversion rate of 50%, the amount of solid waste disposed of in landfills will decrease. However, it is not certain that all jurisdictions will achieve this mandated diversion rate. Furthermore,

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jurisdictions that achieve the mandated diversion rate would have to maintain this diversion rate indefinitely into the future. Therefore, the anticipated solid waste generated by the proposed Project combined with other NMC related projects is considered to be cumulatively considerable.

Electricity

The existing and planned facilities owned and operated by SCE are projected to adequately serve planned growth in the area. No significant cumulative impacts on future electricity facilities would occur from the development of the proposed Project and future developments.

Natural Gas

The existing and planned facilities owned and operated by SCGC are projected to adequately serve planned growth within the service area. Therefore, no cumulative impacts in respect to natural gas services or facilities are anticipated.

5.16.9 Mitigation Measures

NMC Mitigation Measures

The NMC Final EIR did not identify any mitigation measures for utilities/service systems.

Project Mitigation Measures

With the exception of solid waste facilities no mitigation measures are necessary for impacts associated with utilities/service systems. The Avenue Specific Plan component of the Project provides detailed guidelines associated with infrastructure and services (Section 4 of The Avenue Specific Plan) to ensure the Project will meet the City's standards and regulatory requirements. With regard to impacts to solid waste facilities, no feasible mitigation measures are available to reduce cumulative impacts to these facilities at this time. This issue is further discussed in the following Section 5.16.10.

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5.16.10 Level of Significance After Mitigation

With the exception of solid waste facilities, no direct significant impacts to utilities/service systems are anticipated with Project implementation. However, as defined in Section 15355 of the CEQA Guidelines, a cumulative impact consists of an impact which is created as a result of the combination of the project evaluated in the DEIR together with other projects causing related impacts. The proposed Project was anticipated and evaluated in the environmental documents for the NMC General Plan and the NMC infrastructure master plans. The cumulative impacts related to water and sewer systems are discussed in these documents (incorporated by reference). Once the infrastructure master plans are implemented, as required in the above mitigation measures, cumulative impacts are considered less than significant.

Cumulative impacts for water and sewage treatment are considered less than significant since the Project is included in the City's Master Sewer and Water Plans and adequate facilities are, or will be provided. The cumulative effects of the Project and the NMC as a whole on electrical and natural gas demand and facilities were considered in the NMC General Plan and no new impacts not previously considered will result from the proposed Project. Cumulative impacts to electrical and natural gas service are considered less than significant. The NMC General Plan found that residual solid waste impacts will remain and the NMC Final EIR was certified with overriding consideration findings related to the cumulative negative impact on solid waste. Although the solid waste generated by the Project does not exceed the threshold of significance for solid waste, there were no mitigation measures identified that will reduce the significant cumulative impact to a less than significant level. Therefore, impacts to solid waste are still considered cumulatively significant and a statement of overriding considerations will be required. However, no new issues have been raised by this Project which were not considered in the NMC General Plan Final EIR and the statement of overriding considerations for this Project will be consistent with NMC General Plan Final EIR findings.