Mitigated Negative Declaration

San Fernando Valley Water Recycling Project Appendices

Los Angeles Department of Water and Power
Environmental Affairs
111 North Hope Street, Room 1044
Los Angeles, California 90012

November 2012

APPENDICES

APPENDIX A
CONSTRUCTION SPREADSHEET

PROJECT: SAN FERNANDO WATER RECYCLING PROJECT

Work Schedule

Total footage of pipe (LF)	Pipe lay rate (LF/day)	Total days required to install pipe	Working days per year	Number of years required to install total pipe
109,800	90	1220	251	4.9

Excavation of Soils

Total soil excavated incl. 20% expansion (ft^3)[1]	Soil hauled per day (ft^3/day)	Soil hauled per day (yd^3/day)	Maximum volume allowed in a 10-yd. Dump Truck (yd^3)	Number of loads (loads per day)	Number of 10 yd^3 Dump Trucks used	Round trips per truck
1,647,000	1,350	50.0	8.5	6	3	2

Dump Site Locations

NU-WAY 1270 Arrow HighWay Irwindale Ca. I -10 E 19.0 miles
Vulcan 11520 Sheldon St. Sun Valley Ca. I - 5 N (4.7 miles - 22.3 miles)

Construction Crew		Crew Equipment	
1-Supervisor	2-Operator	2-Pick-up Trk	1-Truck Mounted Crane
1-Sr.W.U.W.	3- H.D.T.O.	1-Gang Trk	1-Back Hoe W/ Carrier
2-W.U.W.	1-Field Engineer	1-5 yd^3 Dump Trk	1-Pipe Trk
2-M.C.H		3-10 yd^3 Dump Trk	

CNG
DIESEL
GAS

Trips per vehicle

Pick-up truck - varies
5 yd^3 dump truck - varies
Gang Trk - 1 trip to and from job
Pipe Truck - 1 trip to & from job
Backhow w/carrier - 1 trip to and from job
Truck mounted crane - 1 trip to and from job
10 $yard^3$ dump trucks - see round trips above

Best Management Practices

Geotextile Fabrics / sandbag on all storm drain catch basins opening
All spoils being transported covered with tarp
Comply with City approved traffic control plans

[1] *assumed a 2.5' wide x 5' deep trench*

APPENDIX B
AIR QUALITY REPORT

SAN FERNANDO VALLEY WATER RECYCLING PROJECT AIR QUALITY IMPACT REPORT

Prepared for

AECOM

Prepared by

TERRY A. HAYES ASSOCIATES INC.

June 19, 2012

taha 2012-017

SAN FERNANDO VALLEY
WATER RECYCLING PROJECT
AIR QUALITY IMPACT REPORT

Prepared for

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June 19, 2012

TABLE OF CONTENTS

Page No.

APPENDICES

LIST OF TABLES

LIST OF FIGURES

1.0 SUMMARY OF FINDINGS

Terry A. Hayes Associates Inc. has completed an air quality analysis for the proposed San Fernando Valley Water Recycling Project (proposed project). Key findings are listed below.

- Regional construction emissions would result in a less-than-significant impact and no mitigation measures are required.

- Localized construction emissions would result in a less-than-significant impact and no mitigation measures are required.

- Toxic air contaminant construction emissions would result in a less-than-significant impact and no mitigation measures are required.

- Construction odors would result in a less-than-significant impact and no mitigation measures are required.

- The proposed project would not consist of any additional or new long-term operational activities. Therefore, the proposed project would not result in significant impact and no mitigation measures are required.

- The proposed project would result in a less-than significant impact related to greenhouse gas emissions and no mitigation measures are required.

2.0 INTRODUCTION

2.1 PURPOSE

The purpose of this report is to evaluate the potential for air quality impacts of the proposed San Fernando Valley Water Recycling Project (proposed project). Potential air quality emissions are analyzed for construction of the proposed project.

2.2 PROJECT DESCRIPTION

With imported water supplies becoming increasingly restricted and unreliable, the Los Angeles Department of Water and Power (LADWP) 2010 Urban Water Management Plan calls for 59,000 acre feet per year (AFY) of potable supplies to be replaced by recycled water by 2035.[1] The San Fernando Valley Water Recycling Project is part of the effort to maximize the use of recycled water for non-potable uses. The proposed project would provide recycled water to some of the City of Los Angeles' largest water customers, and where feasible, switch their potable water use into recycled water use. The proposed pipeline route would be divided into six segments within the San Fernando Valley (see **Figures 2-1** through **2-6**).

- The North Hollywood Park segment is approximately 14,000 feet in length. This segment would connect to an existing City of Burbank pipeline on the City of Los Angeles border at Verdugo and Clybourn Avenues. From the Burbank pipeline connection point, this segment would extend approximately 600 feet west on Verdugo Avenue to Camarillo Street, approximately 5,200 feet west on Camarillo Street to Vineland Avenue, approximately 2,600 feet north on Vineland Avenue to Magnolia Boulevard, and approximately 5,600 feet west on Magnolia Boulevard. It would terminate at North Hollywood High School located at 5231 Colfax Avenue on the corner of Magnolia Boulevard and Colfax Avenue. The proposed segment would provide recycled water for customers at North Hollywood Park and North Hollywood High School.

- The Valley Plaza Park segment is approximately 14,700 feet in length. This segment would connect to the existing LADWP pipeline at the intersection of Sherman Way and Woodman Avenue. This segment would extend approximately 8,800 feet east on Sherman Way from the connection point to State Route 170. Two extensions would connect to this main segment. One extension would travel approximately 2,200 feet south on Ethel Avenue from Sherman Way and would terminate at James Madison Middle School located at 13000 Hart Street. The second extension would travel approximately 2,600 feet south on Whitsett Avenue from Sherman Way to Vanowen Street and approximately 1,100 feet east on Vanowen Street. It would terminate at Valley Plaza Park located at 12240 Archwood Street. This proposed segment would provide recycled water for customers at James Madison Middle School, Valley Plaza Park, and California Department of Transportation.

- The Van Nuys Sherman Oaks Park segment is approximately 21,800 feet in length. This segment would connect to the existing LADWP pipeline on Kester Avenue just south of the Los Angeles County Metropolitan Transportation Authority Orange Line Busway. It would extend approximately 360 feet south on Kester Avenue from the connection point to Oxnard Street, approximately 2,600 feet east on Oxnard Street to Van Nuys Boulevard, and approximately 6,940 feet south on Van Nuys Boulevard. It would terminate at Sherman

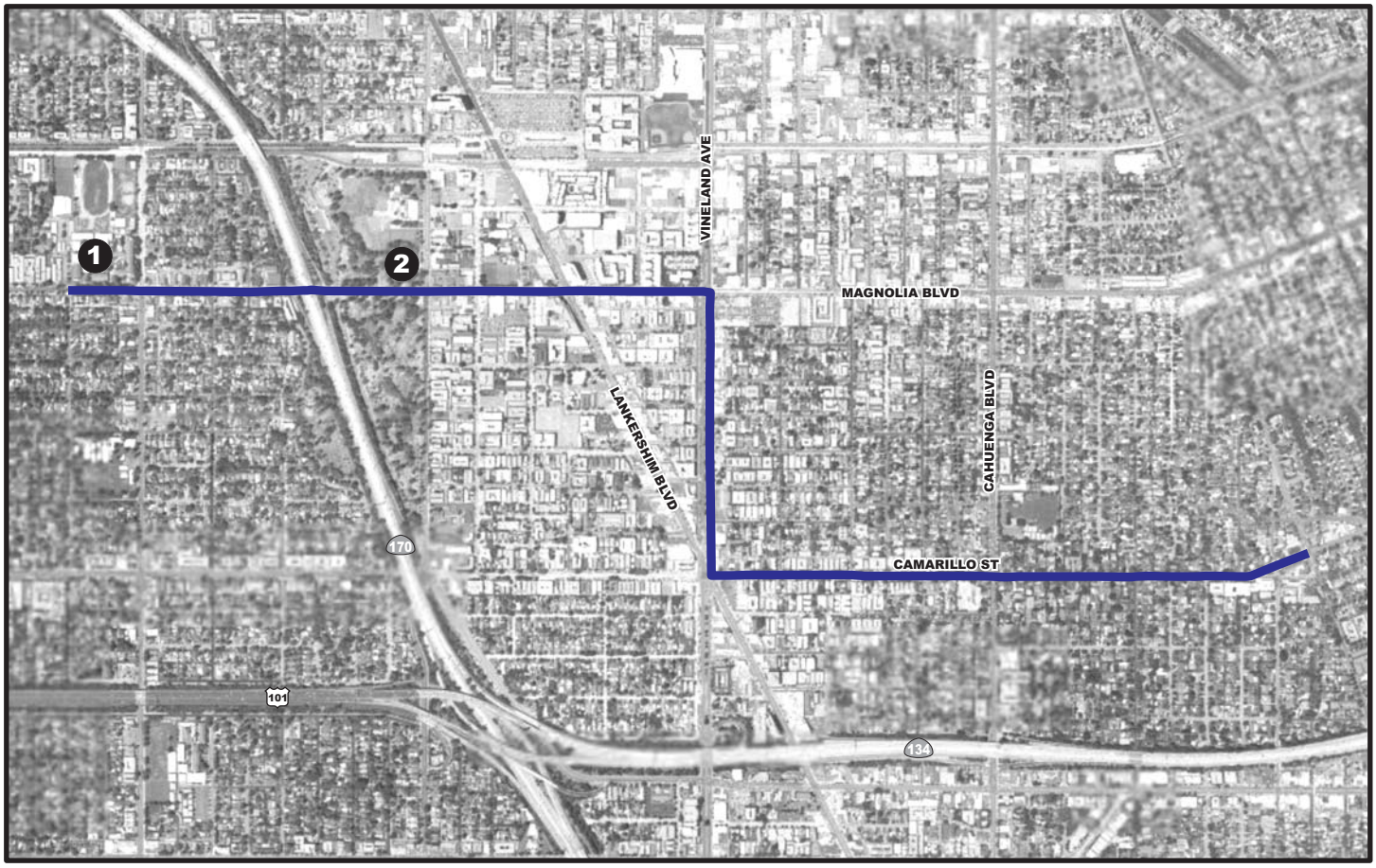
[1]Recycled water is municipal wastewater that has gone through various treatment processes to meet specific water quality criteria.

Oaks Hospital located at 4929 Van Nuys Boulevard. This segment would also include two east extensions. One of these extensions would travel approximately 10,000 feet east on Burbank Boulevard from Van Nuys Boulevard and would terminate at Los Angeles Valley College located at 5800 Fulton Avenue. The other extension would travel approximately 1,900 feet east on Magnolia Boulevard from Van Nuys Boulevard and would terminate at Van Nuys Sherman Oaks Park located at 14201 Huston Street. The proposed segment would provide recycled water for customers at Bubank Oaks Apartments, Los Angeles Valley College, Van Nuys Sherman Oaks Park, and Sherman Oaks Hospital.

- The Reseda Park segment is approximately 24,300 feet in length. The segment would connect to the existing LADWP pipeline at the intersection of Victory Boulevard and Woodley Avenue. This segment would extend approximately 15,800 feet west on Victory Boulevard from the connection point terminating at the intersection of Victory Boulevard and Reseda Boulevard. Three extensions would connect to this main segment. One extension would travel approximately 1,000 feet south on Balboa Boulevard from Victory Boulevard and terminate at the Sepulveda Basin Sports Complex, located 6200 North Louise Avenue. Another extension would travel approximately 2,650 feet north on Balboa Boulevard from Victory Boulevard to Vanowen Street, and approximately 1,350 feet west on Vanowen Street terminating at Mulholland Middle School, located at 17120 Vanowen Street. A third extension would travel approximately 1,400 feet north on Lindley Avenue from Victory Boulevard to Kittridge Street, and approximately 2,100 feet west on Kittridge Street and terminate on the north side of Reseda Park just east of the intersection of Kittridge Street and Reseda Boulevard. The proposed segment would provide recycled water for customers at Birmingham High School, Valley Alternatve School, Sepulveda Basin Sports Complex, High Tech High School, Mulholland Middle School, and Reseda Park.

- The Veteran's Administration (VA) Hospital segment is approximately 21,400 feet in length. The segment would connect to the existing LADWP pipeline at the intersection of Sherman Way and Woodley Avenue. This segment would extend approximately 7,300 feet north on Woodley Avenue from the connection point and terminate at the intersection of Woodley Avenue and Roscoe Boulevard. Two extensions would branch off of this main segment. One extension would travel approximately 1,800 feet west on Roscoe Boulevard from Woodley Avenue to Gothic Avenue, and approximately 600 feet north on Gothic Avenue terminating at Valley Sod Farms located at 16405 Chase Street. Another extension would travel approximately 2,200 feet east on Roscoe Boulevard from Woodley Avenue to Haskell Avenue, then approximately 9,500 feet north on Haskell Avenue and terminate at the VA Hospital located at 16111 Plummer Street. The proposed segment would provide recycled water to customers at Valley Sod Farms, VA Hospital, and Anheuser Busch.

- The Pierce College segment is approximately 13,600 feet in length. The segment would connect to the westernmost termination point of the Reseda Park segment at the intersection of Reseda Boulevard and Victory Boulevard and travel approximately 13,600 feet west on Victory Boulevard, terminating at the intersection of Victory Boulevard and Mason Avenue. Pierce College is located at 6201 Winnetka Avenue. The proposed segment would provide recycled water to customers at Pierce College.



LEGEND:

Proposed Alignment - North Hollywood Park Segment

(#) Customers

1. North Hollywood High School

2. North Hollywood Park

SOURCE: Google Earth and TAHA, 2012.

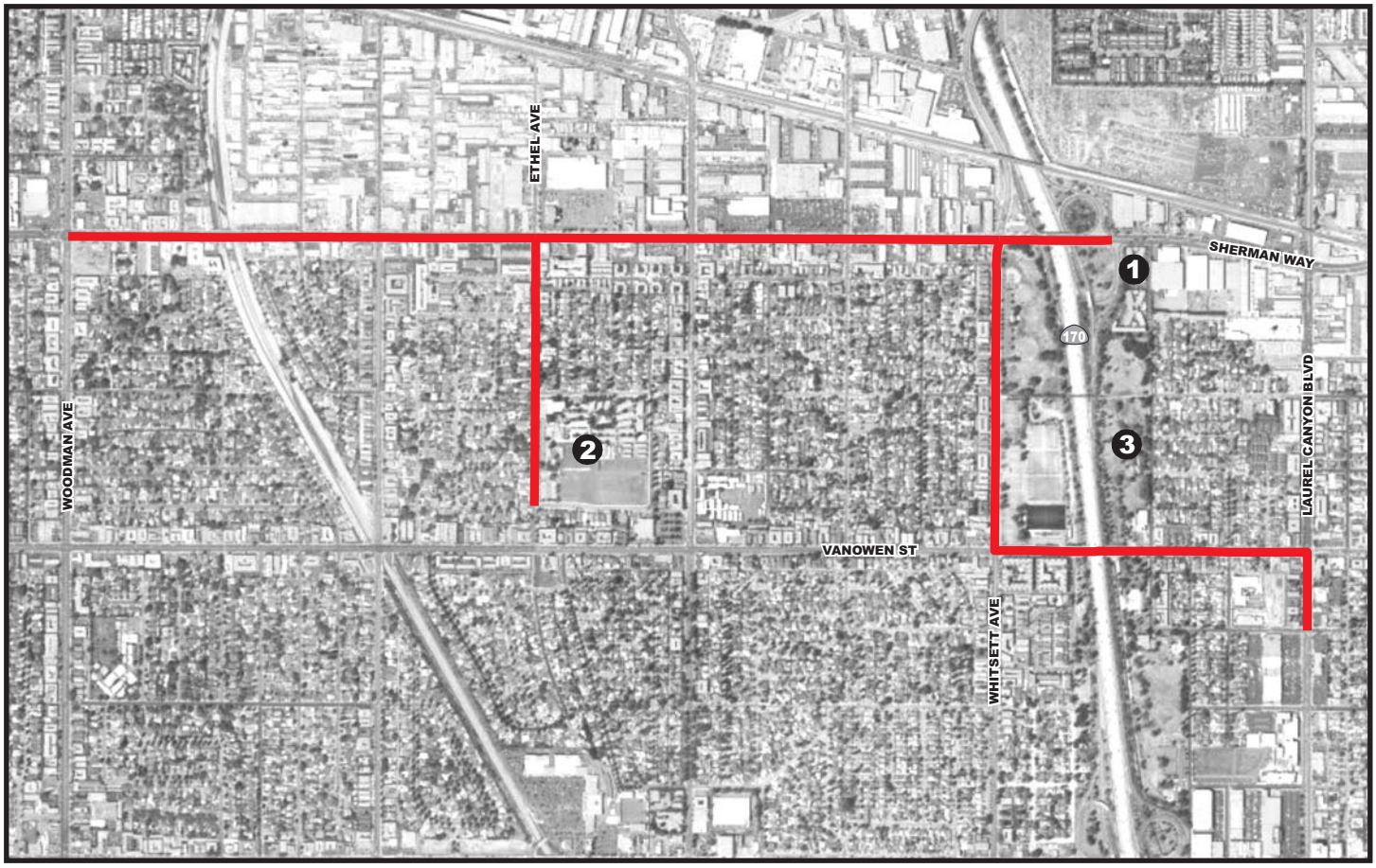
APPROX. SCALE

N

0 847 1,694 FEET

FIGURE 2-1

PROJECT ALIGNMENT - NORTH HOLLYWOOD PARK



LEGEND:

Proposed Alignment - Valley Plaza Park Segment

Customers

1. Caltrans Facility
2. James Madison Middle School
3. Valley Plaza Park

SOURCE: Google Earth and TAHA, 2012.

APPROX. SCALE

N

0 770 1,540 FEET

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Air Quality Impact Report

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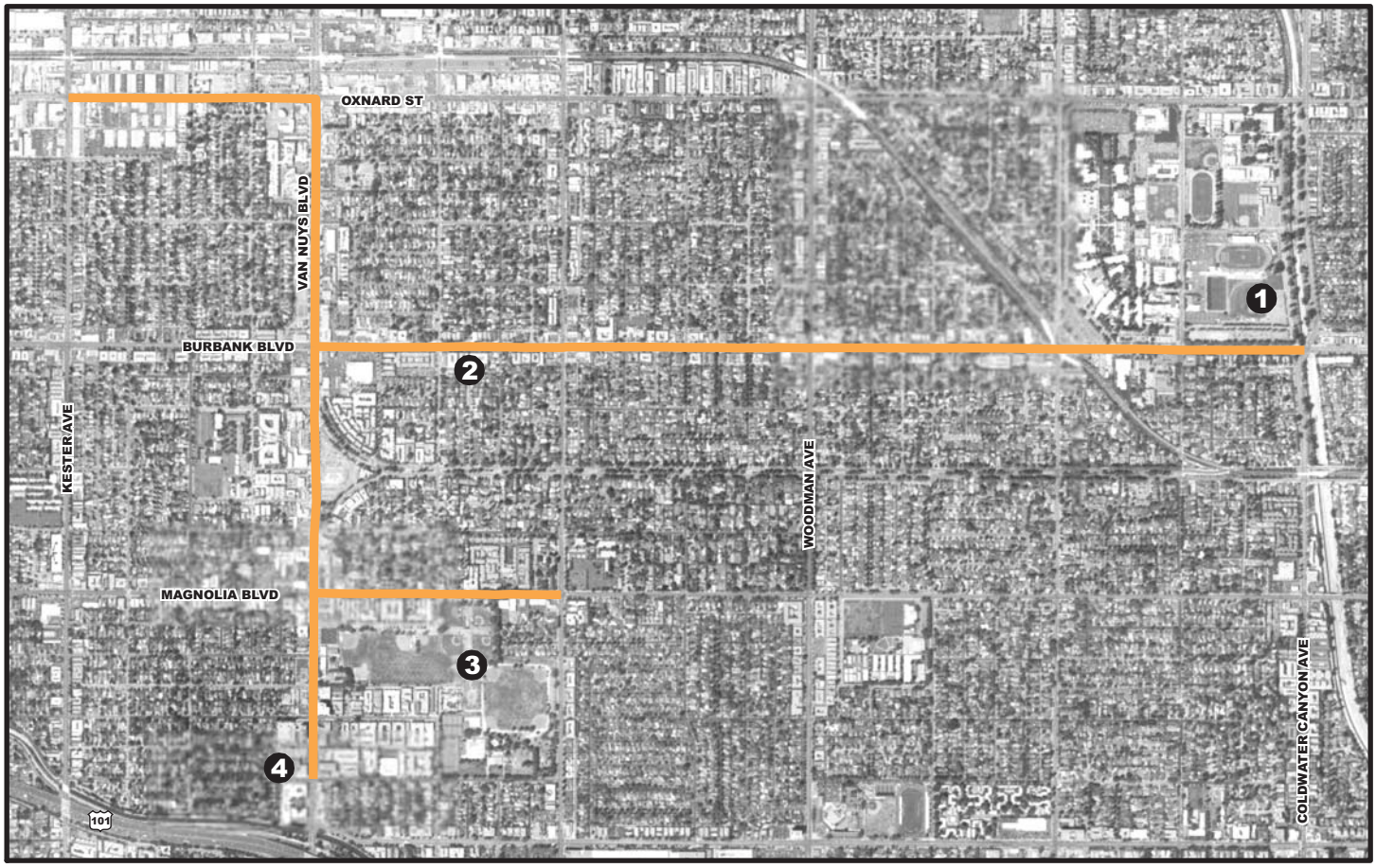
FIGURE 2-2

PROJECT ALIGNMENT - VALLEY PLAZA PARK



LEGEND:

Proposed Alignment - Van Nuys Sherman Oaks Park Segment

(#) Customers

1. Los Angeles Valley College
2. Burbank Oaks Apartments
3. Van Nuys-Sherman Oaks Park
4. Sherman Oaks Hospital

SOURCE: Google Earth and TAHA, 2012.

Approx. Scale

N

0 970 1,940 FEET

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Air Quality Impact Report

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FIGURE 2-3

PROJECT ALIGNMENT -
VAN NUYS SHERMAN OAKS PARK

LEGEND:

Proposed Alignment - Reseda Park Segment

(#) Customers

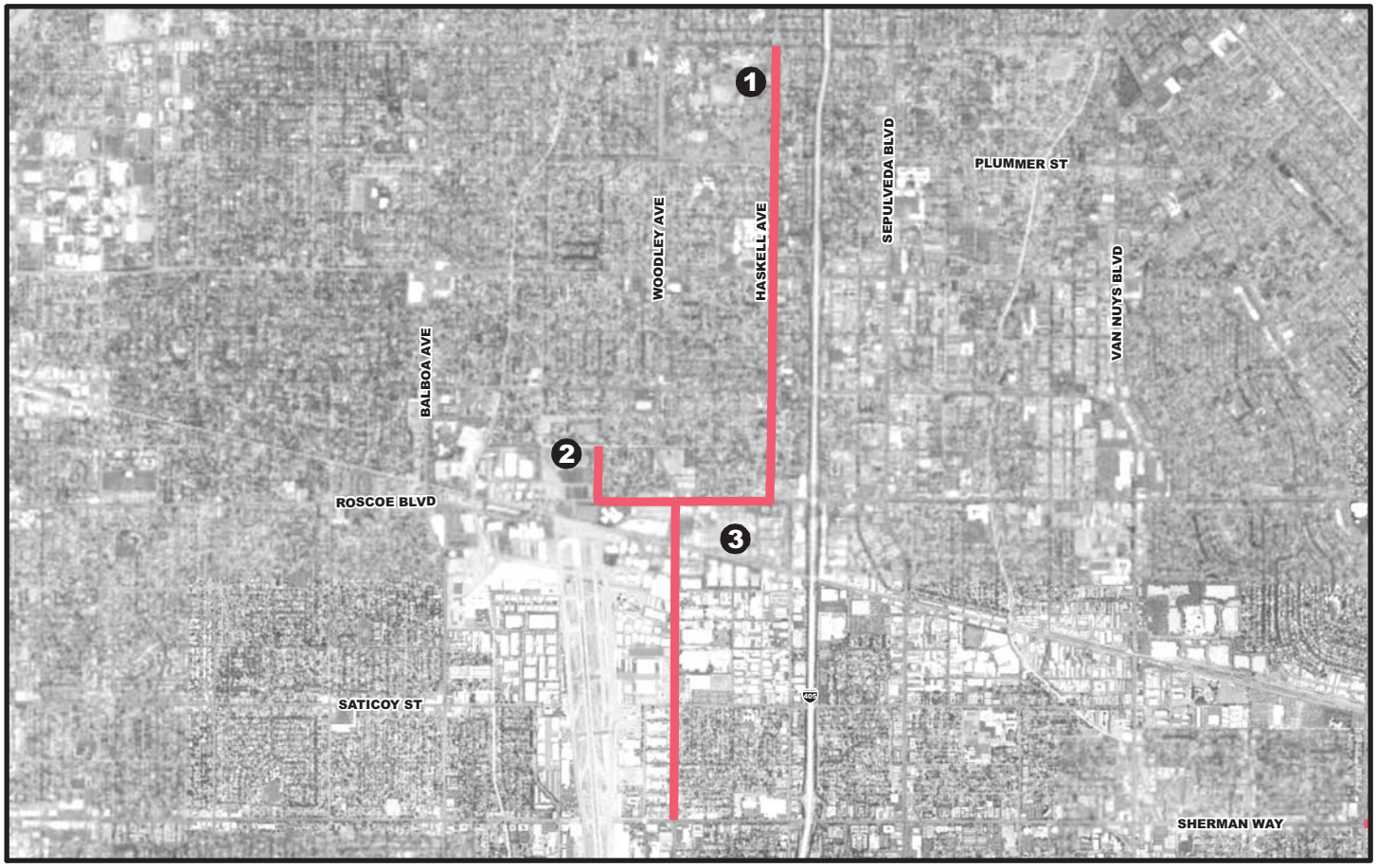
1. Mulholland Middle School
2. Valley Alternative School
3. Birmingham High School
4. High Tech High School
5. Sepulveda Basin Sports Complex
6. Reseda Park, Section 1
7. Reseda Park, Section 2

APPROX. SCALE

N

0 1,150 2,300 FEET

SOURCE: Google Earth and TAHA, 2012.



LEGEND:

Proposed Alignment - Veterans Administration Hospital Segment

(#) Customers

1. Veterans Administration Hospital
2. Valley Sod Farms
3. Anheuser Busch

SOURCE: TAHA, 2012 and Google Earth, 2012.

APPROX. SCALE

N

0 2,075 4,150 FEET

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San Fernando Valley Water Recycling Project
Air Quality Impact Report

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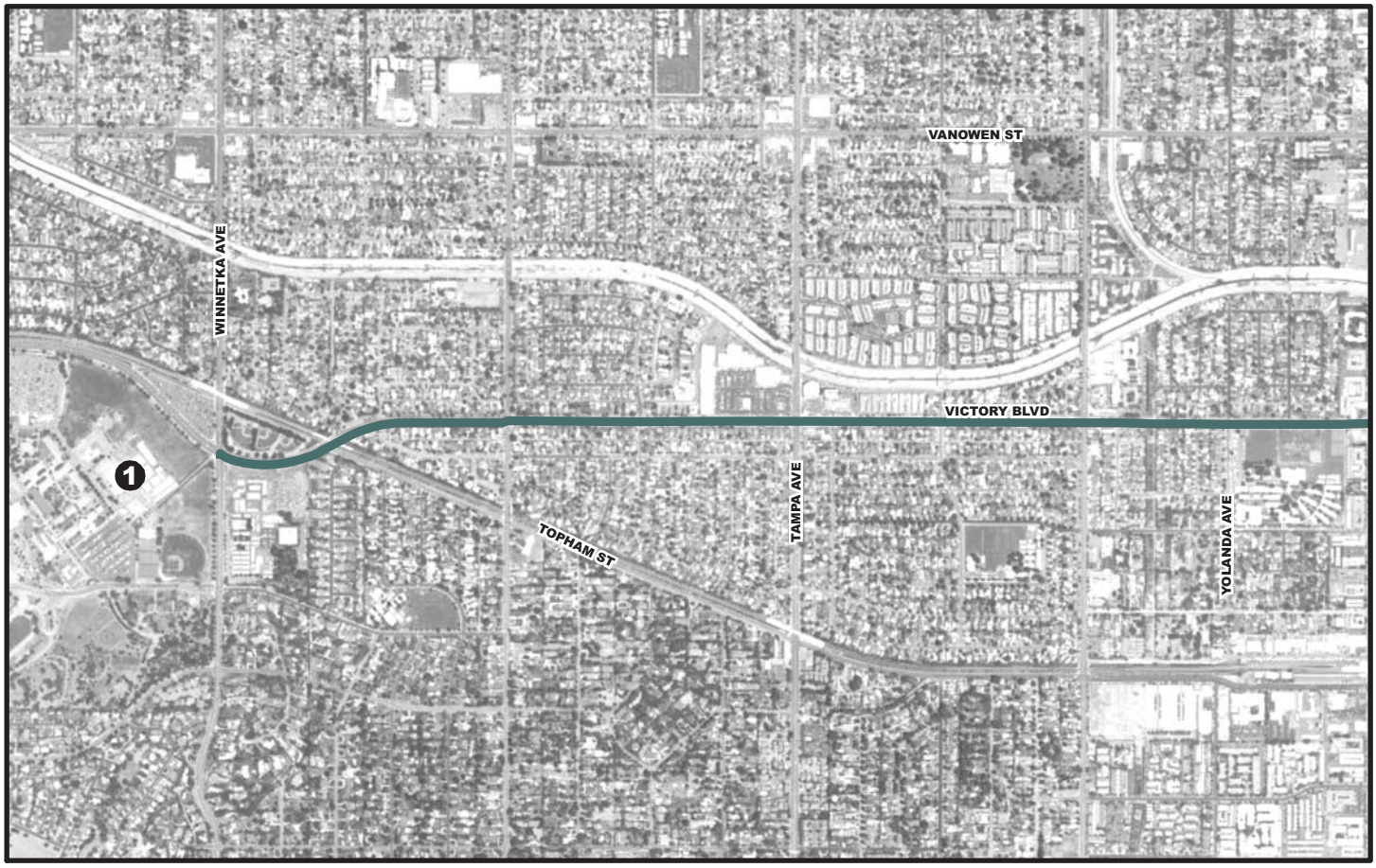
FIGURE 2-5

PROJECT ALIGNMENT -
VETERANS ADMINISTRATION HOSPITAL



LEGEND:

Proposed Alignment - Pierce College Segment

Customers

1. Pierce College

SOURCE: Google Earth and TAHA, 2012.

APPROX. SCALE

N

0 775 1,550 FEET

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San Fernando Valley Water Recycling Project
Air Quality Impact Report

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FIGURE 2-6

PROJECT ALIGNMENT - PIERCE COLLEGE

Installation of the recycled water pipeline would occur within public roads and using a cut and cover trenching technique. An approximately 2.5-foot wide by 5-foot deep trench would be excavated within the roadway that could be covered with metal plates during periods of the day when construction is not ongoing. Once the pipeline has been installed within a segment, the trench would be backfilled with slurry material and repaved. Excess soil that cannot be reused as backfill material would be disposed of at an appropriate regional landfill. Recycled water pipeline installation would necessitate restrictions of on-street parking and closure of up to two lanes of the roadway depending on the location of construction. In general, approximately 90 linear feet of pipeline would be installed per day.

Construction would occur sequentially along the alignment of each segment to minimize long-term disruption within any one area. Construction would generally occur from east to west, beginning with the North Hollywood Park and continuing in the following order: Valley Plaza Park, Van Nuys Sherman Oaks Park, Reseda Park, VA Hospital, and Pierce College. Materials and equipment staging and construction worker parking would use City facilities and public parking lots located along or near the proposed alignments.

Railroad crossings would require tunneling instead of trenching. Launching and receiving pits would be located on either end of the tunnel. Hydraulic jacks would drive pipes through the ground. Excess soil that cannot be reused as backfill material would be disposed of at an appropriate regional landfill.

Construction of the proposed project is anticipated to begin in summer 2017 and take approximately five years to complete, concluding in summer 2021. Generally, in accordance with the Noise Ordinance, construction activity would occur Mondays through Fridays from 7:00 a.m. to approximately 3:30 p.m. However, due to the nature of construction activities within public roadways, construction activity could be limited to off-peak periods and at night in non-residential areas to minimize disruptions to traffic on public streets. Construction would also be coordinated with the City of Los Angeles Department of Transportation to minimize traffic disturbances.

An appropriate combination of monitoring and resource impact avoidance would be employed during all phases of the proposed project, including implementation of the following Best Management Practices:

- The proposed project would implement Rule 403 dust control measures required by the South Coast Air Quality Management District (SCAQMD), which would include the following:

    1) Water shall be applied to exposed surfaces at least two times per day to prevent generation of dust plumes;

    2) The construction contractor shall utilize at least one of the following measures at each vehicle egress from the project site to a paved public road:
        a. Install a pad consisting of washed gravel maintained in clean condition to a depth of at least six inches and extending at least 30 feet wide and at least 50 feet long;
        b. Pave the surface extending at least 100 feet and at least 20 feet wide;
        c. Utilize a wheel shaker/wheel spreading device consisting of raised dividers at least 24 feet long and 10 feet wide to remove bulk material from tires and vehicle undercarriages; or
        d. Install a wheel washing system to remove bulk material from tires and vehicle undercarriages;

3) All haul trucks hauling soil, sand, and other loose materials shall be covered (e.g., with tarps or other enclosures that would reduce fugitive dust emissions);

4) Construction activity on exposed or unpaved dirt surfaces shall be suspended when wind speed exceeds 25 miles per hour (mph) (such as instantaneous gusts);

5) Ground cover in disturbed areas shall be replaced in a timely fashion when work is completed in the area;

6) Identify a community liaison concerning on-site construction activity including resolution of issues related to PM_{10} generation;

7) Apply non-toxic soil stabilizers according to manufacturers' specifications to all inactive construction areas (previously graded areas inactive for ten days or more);

8) Traffic speeds on all unpaved roads to be limited to 15 mph or less; and

9) Sweep streets at the end of the day if visible soil is carried onto adjacent public paved roads. If feasible, use water sweepers with reclaimed water.

3.0 AIR QUALITY

This analysis examines the degree to which the proposed project may cause significant adverse changes to air quality. Both short-term construction emissions occurring from activities, such as excavating and haul truck trips are discussed in this section. The analysis focuses on air pollution from two perspectives: daily emissions and pollutant concentrations. "Emissions" refer to the quantity of pollutants released into the air, measured in pounds per day (ppd). "Concentrations" refer to the amount of pollutant material per volumetric unit of air, measured in parts per million (ppm) or micrograms per cubic meter ($\mu g/m^3$).

3.1 POLLUTANTS & EFFECTS

The federal and State governments have established ambient air quality standards for outdoor concentrations of criteria air pollutants to protect public health. The federal and State standards have been set at levels above which concentrations could be harmful to human health and welfare. These standards are designed to protect the most sensitive persons from illness or discomfort. Criteria air pollutants include carbon monoxide (CO), ozone (O_3), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulate matter 2.5 microns or less in diameter ($PM_{2.5}$), particulate matter ten microns or less in diameter (PM_{10}), and lead (Pb). These pollutants are discussed below.

Carbon Monoxide. CO is a colorless and odorless gas formed by the incomplete combustion of fossil fuels. CO is emitted almost exclusively from motor vehicles, power plants, refineries, industrial boilers, ships, aircraft and trains. In urban areas such as the project location, automobile exhaust accounts for the majority of CO emissions. CO is a non-reactive air pollutant that dissipates relatively quickly, so ambient CO concentrations generally follow the spacial and temporal distributions of vehicular traffic. CO concentrations are influenced by local meteorological conditions, primarily wind speed, topography and atmospheric stability. CO from motor vehicle exhaust can become locally concentrated when surface-based temperature inversions are combined with calm atmospheric conditions, a typical situation at dusk in urban areas between November and February.[2] The highest levels of CO typically occur during the colder months of the year when inversion conditions are more frequent. In terms of health, CO competes with oxygen, often replacing it in the blood, thus reducing the blood's ability to transport oxygen to vital organs. The results of excess CO exposure can be dizziness, fatigue, and impairment of central nervous system functions.

Ozone. O_3 is a colorless gas that is formed in the atmosphere when reactive organic gases (ROG), which includes volatile organic compounds (VOC) and nitrogen oxides (NO_X) react in the presence of ultraviolet sunlight. O_3 is not a primary pollutant; it is a secondary pollutant formed by complex interactions of two pollutants directly emitted into the atmosphere. The primary sources of ROG and NO_X, components of O_3, are automobile exhaust and industrial sources. Meteorology and terrain play major roles in O_3 formation. Ideal conditions occur during summer and early autumn, on days with low wind speeds or stagnant air, warm temperatures and cloudless skies. The greatest source of smog-producing gases is the automobile. Short-term exposure (lasting for a few hours) to O_3 at levels typically observed in Southern California can result in breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of the lung tissue and some immunological changes.

[2]Inversion is an atmospheric condition in which a layer of warm air traps cooler air near the surface of the earth, preventing the normal rising of surface air.

Nitrogen Dioxide. NO_2, like O_3, is not directly emitted into the atmosphere but is formed by an atmospheric chemical reaction between nitric oxide (NO) and atmospheric oxygen. NO and NO_2 are collectively referred to as NO_X and are major contributors to O_3 formation. NO_2 also contributes to the formation of PM_{10}. High concentrations of NO_2 can cause breathing difficulties and result in a brownish-red cast to the atmosphere with reduced visibility. There is some indication of a relationship between NO_2 and chronic pulmonary fibrosis. Some increase of bronchitis in children (two and three years old) has also been observed at concentrations below 0.3 ppm.

Sulfur Dioxide. SO_2 is a colorless, pungent gas formed primarily by the combustion of sulfur-containing fossil fuels. Main sources of SO_2 are coal and oil used in power plants and industries. Generally, the highest levels of SO_2 are found near large industrial complexes. In recent years, SO_2 concentrations have been reduced by the increasingly stringent controls placed on stationary source emissions of SO_2 and limits on the sulfur content of fuels. SO_2 is an irritant gas that attacks the throat and lungs. It can cause acute respiratory symptoms and diminished ventilator function in children. SO_2 can also yellow plant leaves and erode iron and steel.

Particulate Matter. Particulate matter pollution consists of very small liquid and solid particles floating in the air, which can include smoke, soot, dust, salts, acids and metals. Particulate matter also forms when gases emitted from industries and motor vehicles undergo chemical reactions in the atmosphere. $PM_{2.5}$ and PM_{10} represent fractions of particulate matter. Fine particulate matter or $PM_{2.5}$, is roughly 1/28 the diameter of a human hair. $PM_{2.5}$ results from fuel combustion (e.g., motor vehicles, power generation and industrial facilities), residential fireplaces and wood stoves. In addition, $PM_{2.5}$ can be formed in the atmosphere from gases such as SO_2, NO_X and VOC. Inhalable particulate matter, or PM_{10}, is about 1/7 the thickness of a human hair. Major sources of PM_{10} include crushing or grinding operations; dust stirred up by vehicles traveling on roads; wood burning stoves and fireplaces; dust from construction, landfills and agriculture; wildfires and brush/waste burning; industrial sources; windblown dust from open lands; and atmospheric chemical and photochemical reactions.

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

Lead. Pb in the atmosphere occurs as particulate matter. Sources of lead include leaded gasoline; the manufacturers of batteries, paint, ink, ceramics, ammunition and secondary lead smelters. Prior to 1978, mobile emissions were the primary source of atmospheric lead. Between 1978 and 1987, the phase-out of leaded gasoline reduced the overall inventory of airborne lead by nearly 95 percent. With the phase-out of leaded gasoline, secondary lead smelters, battery recycling, and manufacturing facilities have become lead-emission sources of greater concern.

Prolonged exposure to atmospheric lead poses a serious threat to human health. Health effects associated with exposure to lead include gastrointestinal disturbances, anemia, kidney disease,

and in severe cases, neuromuscular and neurological dysfunction. Of particular concern are low-level lead exposures during infancy and childhood. Such exposures are associated with decrements in neurobehavioral performance, including intelligence quotient performance, psychomotor performance, reaction time and growth.

Toxic Air Contaminants. Toxic air contaminants (TACs) are generally defined as those contaminants that are known or suspected to cause serious health problems, but do not have a corresponding ambient air quality standard. TACs are also defined as an air pollutant that may increase a person's risk of developing cancer and/or other serious health effects; however, the emission of a toxic chemical does not automatically create a health hazard. Other factors, such as the amount of the chemical; its toxicity, and how it is released into the air, the weather, and the terrain, all influence whether the emission could be hazardous to human health. TACs are emitted by a variety of industrial processes such as petroleum refining, electric utility and chrome plating operations, commercial operations such as gasoline stations and dry cleaners, and motor vehicle exhaust and may exist as PM_{10} and $PM_{2.5}$ or as vapors (gases). TACs include metals, other particles, gases absorbed by particles, and certain vapors from fuels and other sources.

The emission of toxic substances into the air can be damaging to human health and to the environment. Human exposure to these pollutants at sufficient concentrations and durations can result in cancer, poisoning, and rapid onset of sickness, such as nausea or difficulty in breathing. Other less measurable effects include immunological, neurological, reproductive, developmental, and respiratory problems. Pollutants deposited onto soil or into lakes and streams affect ecological systems and eventually human health through consumption of contaminated food. The carcinogenic potential of TACs is a particular public health concern because many scientists currently believe that there is no "safe" level of exposure to carcinogens. Any exposure to a carcinogen poses some risk of contracting cancer.

The public's exposure to TACs is a significant public health issue in California. The Air Toxics "Hotspots" Information and Assessment Act is a state law requiring facilities to report emissions of TACs to air districts. The program is designated to quantify the amounts of potentially hazardous air pollutants released, the location of the release, the concentrations to which the public is exposed, and the resulting health risks.

To date, the most comprehensive study on air toxics in the Basin is the Multiple Air Toxics Exposure Study (MATES-III), conducted by the SCAQMD. The monitoring program measured more than 30 air pollutants, including both gases and particulates. The monitoring study was accompanied by a computer modeling study in which SCAQMD estimated the risk of cancer from breathing toxic air pollution throughout the region based on emissions and weather data. MATES-III found that the average cancer risk in the region from carcinogenic air pollutants ranges from about 870 in a million to 1,400 in a million, with an average regional risk of about 1,200 in a million.

Diesel Particulate Matter. According to the 2006 California Almanac of Emissions and Air Quality, the majority of the estimated health risks from TACs can be attributed to relatively few compounds, the most important being particulate matter from the exhaust of diesel-fueled engines (diesel PM). Diesel PM differs from other TACs in that it is not a single substance, but rather a complex mixture of hundreds of substances.

Diesel exhaust is composed of two phases, gas and particle, and both phases contribute to the health risk. The gas phase is composed of many of the urban hazardous air pollutants, such as acetaldehyde, acrolein, benzene, 1,3-butadiene, formaldehyde and polycyclic aromatic

hydrocarbons. The particle phase is also composed of many different types of particles by size or composition. Fine and ultra fine diesel particulates are of the greatest health concern, and may be composed of elemental carbon with adsorbed compounds such as organic compounds, sulfate, nitrate, metals and other trace elements. Diesel exhaust is emitted from a broad range of diesel engines; the on road diesel engines of trucks, buses and cars and the off road diesel engines that include locomotives, marine vessels and heavy duty equipment. Although diesel PM is emitted by diesel-fueled internal combustion engines, the composition of the emissions varies depending on engine type, operating conditions, fuel composition, lubricating oil, and whether an emission control system is present.

The most common exposure to diesel PM is breathing the air that contains diesel PM. The fine and ultra-fine particles are respirable (similar to $PM_{2.5}$), which means that they can avoid many of the human respiratory system defense mechanisms and enter deeply into the lung. Exposure to diesel PM comes from both on-road and off-road engine exhaust that is either directly emitted from the engines or lingering in the atmosphere.

Diesel exhaust causes health effects from both short-term or acute exposures, and long-term chronic exposures. The type and severity of health effects depends upon several factors including the amount of chemical exposure and the duration of exposure. Individuals also react differently to different levels of exposure. There is limited information on exposure to just diesel PM but there is enough evidence to indicate that inhalation exposure to diesel exhaust causes acute and chronic health effects.

Acute exposure to diesel exhaust may cause irritation to the eyes, nose, throat and lungs, some neurological effects such as lightheadedness. Acute exposure may also elicit a cough or nausea as well as exacerbate asthma. Chronic exposure to diesel PM in experimental animal inhalation studies have shown a range of dose-dependent lung inflammation and cellular changes in the lung and immunological effects. Based upon human and laboratory studies, there is considerable evidence that diesel exhaust is a likely carcinogen. Human epidemiological studies demonstrate an association between diesel exhaust exposure and increased lung cancer rates in occupational settings.

Unlike other TACs, no ambient monitoring data are available for diesel PM because no routine measurement method currently exists. However, California Air Resources Board (CARB) has made preliminary concentration estimates based on a PM exposure method. This method uses the CARB emissions inventory's PM_{10} database, ambient PM_{10} monitoring data, and the results from several studies to estimate concentrations of diesel PM.

Diesel PM poses the greatest health risk among these ten TACs mentioned. Based on receptor modeling techniques, SCAQMD estimated that diesel PM accounts for 84 percent of the total risk in the South Coast Air Basin.

Greenhouse Gases. Greenhouse gas (GHG) emissions refer to a group of emissions that are generally believed to affect global climate conditions. Simply put, the greenhouse effect compares the Earth and the atmosphere surrounding it to a greenhouse with glass panes. The glass panes in a greenhouse let heat from sunlight in and reduce the amount of heat that escapes. GHGs, such as carbon dioxide (CO_2), methane (CH_4) and nitrous oxide (N_2O) keep the average surface temperature of the Earth close to 60 degrees Fahrenheit (°F). Without the GHG effect, the Earth would be a frozen globe with an average surface temperature of about 5°F.

In addition to CO_2, CH_4, and N_2O, GHGs include hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, and water vapor. Of all the GHGs, CO_2 is the most abundant pollutant that contributes to climate change through fossil fuel combustion. CO_2 comprised 81 percent of the total GHG emissions in California in 2002 and non-fossil fuel CO_2 comprised 2.3 percent.[3] The other GHGs are less abundant but have higher global warming potential than CO_2. To account for this higher potential, emissions of other GHGs are frequently expressed in the equivalent mass of CO_2, denoted as CO_2e. The CO_2e of CH_4 and N_2O represented 6.4 and 6.8 percent, respectively, of the 2002 California GHG emissions. Other high global warming potential gases represented 3.5 percent of these emissions.[4] In addition, there are a number of man-made pollutants, such as CO, NO_X, non-methane VOC, and SO_2, that have indirect effects on terrestrial or solar radiation absorption by influencing the formation or destruction of other climate change emissions.

3.2 REGULATORY SETTING

Federal

United States Environmental Protection Agency. The Federal Clean Air Act (CAA) governs air quality in the United States. The United State Environmental Protection Agency (USEPA) is responsible for enforcing the CAA. USEPA is also responsible for establishing the National Ambient Air Quality Standards (NAAQS). NAAQS are required under the 1977 CAA and subsequent amendments. USEPA regulates emission sources that are under the exclusive authority of the federal government, such as aircraft, ships, and certain types of locomotives. USEPA has jurisdiction over emission sources outside State waters (e.g., beyond the outer continental shelf) and establishes various emission standards, including those for vehicles sold in states other than California. Automobiles sold in California must meet stricter emission standards established by CARB.

As required by the CAA, NAAQS have been established for seven major air pollutants: CO, NO_2, O_3, $PM_{2.5}$, PM_{10}, SO_2, and Pb. The CAA requires USEPA to designate areas as attainment, nonattainment, or maintenance (previously nonattainment and currently attainment) for each criteria pollutant based on whether the NAAQS have been achieved. The federal standards are summarized in **Table 3-1**. The USEPA has classified the South Coast Air Basin as maintenance for CO and nonattainment for O_3, $PM_{2.5}$, and PM_{10}.

[3]California Environmental Protection Agency, Climate Action Team Report to Governor Schwarzenegger and the Legislature, March 2006, p. 11.
[4]*Ibid.*

TABLE 3-1: STATE AND NATIONAL AMBIENT AIR QUALITY STANDARDS AND ATTAINMENT STATUS FOR THE SOUTH COAST AIR BASIN

Pollutant	Averaging Period	California		National	
		Standards	Attainment Status	Standards	Attainment Status
Ozone (O_3)	1-hour	0.09 ppm (180 µg/m^3)	Nonattainment	--	--
	8-hour	0.070 ppm (137 µg/m^3)	n/a	0.075 ppm (147 µg/m^3)	Nonattainment
Respirable Particulate Matter (PM_{10})	24-hour	50 µg/m^3	Nonattainment	150 µg/m^3	Nonattainment
	Annual Arithmetic Mean	20 µg/m^3	Nonattainment	--	--
Fine Particulate Matter ($PM_{2.5}$)	24-hour	--	--	35 µg/m^3	Nonattainment
	Annual Arithmetic Mean	12 µg/m^3	Nonattainment	15 µg/m^3	Nonattainment
Carbon Monoxide (CO)	1-hour	20 ppm (23 mg/m^3)	Attainment	35 ppm (40 mg/m^3)	Unclassified/ Attainment
	8-hour	9.0 ppm (10 mg/m^3)	Attainment	9 ppm (10 mg/m^3)	Unclassified/ Attainment
Nitrogen Dioxide (NO_2)	1-hour	0.18 ppm (338 µg/m^3)	Nonattainment	100 ppb (188 µg/m^3)	n/a
	Annual Arithmetic Mean	0.030 ppm (57 µg/m^3)	Nonattainment	53 ppb (100 µg/m^3)	Unclassified/ Attainment
Sulfur Dioxide (SO_2)	1-hour	0.25 ppm (655 µg/m^3)	Attainment	--	--
	24-hour	0.04 ppm (105 µg/m^3)	Attainment	0.14 ppm (365 µg/m^3)	Attainment
	3-hour	--	--	--	--
	Annual Arithmetic Mean	--	--	0.030 ppm (80 µg/m^3)	Attainment
Lead (Pb)	30-day average	1.5 µg/m^3	Attainment	--	--
	Calendar Quarter	--	--	0.15 µg/m^3	Attainment

n/a = not available
SOURCE: CARB, *Ambient Air Quality Standards*, February 7, 2012.

State

California Air Resources Board. In addition to being subject to the requirements of CAA, air quality in California is also governed by more stringent regulations under the California Clean Air Act (CCAA). In California, the CCAA is administered by the CARB at the State level and by the air quality management districts and air pollution control districts at the regional and local levels. CARB, which became part of the California Environmental Protection Agency (Cal/EPA) in 1991, is responsible for meeting the State requirements of the CAA, administering the CCAA, and establishing the California Ambient Air Quality Standards (CAAQS). The CCAA, as

amended in 1992, requires all air districts in the State to endeavor to achieve and maintain the CAAQS. CAAQS are generally more stringent than the corresponding federal standards and incorporate additional standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. CARB regulates mobile air pollution sources, such as motor vehicles. CARB is responsible for setting emission standards for vehicles sold in California and for other emission sources, such as consumer products and certain off-road equipment. CARB established passenger vehicle fuel specifications, which became effective in March 1996. CARB oversees the functions of local air pollution control districts and air quality management districts, which, in turn, administer air quality activities at the regional and county levels. The State standards are summarized in **Table 3-1**.

The CCAA requires CARB to designate areas within California as either attainment or nonattainment for each criteria pollutant based on whether the CAAQS have been achieved. Under the CCAA, areas are designated as nonattainment for a pollutant if air quality data shows that a State standard for the pollutant was violated at least once during the previous three calendar years. Exceedances that are affected by highly irregular or infrequent events are not considered violations of a State standard and are not used as a basis for designating areas as nonattainment. Under the CCAA, the Los Angeles County portion of the Basin is designated as a nonattainment area for O_3, $PM_{2.5}$, PM_{10}, and NO_2.[5]

Toxic Air Contaminants. CARB's Statewide comprehensive air toxics program was established in the early 1980's. The Toxic Air Contaminant Identification and Control Act created California's program to reduce exposure to air toxics. Under the Toxic Air Contaminant Identification and Control Act, CARB is required to use certain criteria in the prioritization for the identification and control of air toxics. In selecting substances for review, CARB must consider criteria relating to "the risk of harm to public health, amount or potential amount of emissions, manner of, and exposure to, usage of the substance in California, persistence in the atmosphere, and ambient concentrations in the community" [Health and Safety Code Section 39666(f)]. The Toxic Air Contaminant Identification and Control Act also requires CARB to use available information gathered from the Air Toxics "Hot Spots" Information and Assessment Act program to include in the prioritization of compounds.

California has established a two-step process of risk identification and risk management to address the potential health effects from air toxic substances and protect the public health of Californians. During the first step (identification), CARB and the Office of Environmental Health Hazard Assessment (OEHHA) determine if a substance should be formally identified as a TAC in California. During this process, CARB and the OEHHA staff draft a report that serves as the basis for this determination. CARB staff assesses the potential for human exposure to a substance and the OEHHA staff evaluates the health effects. After CARB and the OEHHA staff hold several comment periods and workshops, the report is then submitted to an independent, nine-member Scientific Review Panel (SRP), who reviews the report for its scientific accuracy. If the SRP approves the report, they develop specific scientific findings which are officially submitted to CARB. CARB staff then prepares a hearing notice and draft regulation to formally identify the substance as a TAC. Based on the input from the public and the information gathered from the report, the CARB decides whether to identify a substance as a TAC. In 1993, the California Legislature amended the Toxic Air Contaminant Identification and Control Act by requiring CARB to identify 189 federal hazardous air pollutants as State TACs.

[5]CARB, Area Designation Maps, available at http://www.arb.ca.gov/desig/adm/adm.htm, accessed March 8, 2012.

In the second step (risk management), CARB reviews the emission sources of an identified TAC to determine if any regulatory action is necessary to reduce the risk. The analysis includes a review of controls already in place, the available technologies and associated costs for reducing emissions, and the associated risk.

The Air Toxics "Hot Spots" Information and Assessment Act (Health and Safety Code Section 44360) supplements the Toxic Air Contaminant Identification and Control Act by requiring a Statewide air toxics inventory, notification of people exposed to a significant health risk, and facility plans to reduce these risks. The "Hot Spots" Act also requires facilities that pose a significant health risk to the community to reduce their risk through a risk management plan.

California's Diesel Risk Reduction Program. CARB identified particulate emissions from diesel-fueled engines (diesel PM) TACs in August 1998. Following the identification process, the ARB was required by law to determine if there is a need for further control, which led to the risk management phase of the program.

For the risk management phase, CARB formed the Diesel Advisory Committee to assist in the development of a risk management guidance document and a risk reduction plan. With the assistance of the Advisory Committee and its subcommittees, CARB developed the Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles and the Risk Management Guidance for the Permitting of New Stationary Diesel-Fueled Engines. The Diesel Advisory Committee approved these documents on September 28, 2000, paving the way for the next step in the regulatory process: the control measure phase.

During the control measure phase, specific Statewide regulations designed to further reduce diesel PM emissions from diesel-fueled engines and vehicles have and continue to be evaluated and developed. The goal of each regulation is to make diesel engines as clean as possible by establishing state-of-the-art technology requirements or emission standards to reduce diesel PM emissions.

Local

South Coast Air Quality Management District. The 1977 Lewis Air Quality Management Act created the SCAQMD to coordinate air quality planning efforts throughout Southern California. This Act merged four county air pollution control agencies into one regional district to better address the issue of improving air quality in Southern California. Under the Act, renamed the Lewis-Presley Air Quality Management Act in 1988, the SCAQMD is the agency principally responsible for comprehensive air pollution control in the region. Specifically, the SCAQMD is responsible for monitoring air quality, as well as planning, implementing, and enforcing programs designed to attain and maintain State and federal ambient air quality standards in the district. Programs that were developed include air quality rules and regulations that regulate stationary sources, area sources, point sources, and certain mobile source emissions. The SCAQMD is also responsible for establishing stationary source permitting requirements and for ensuring that new, modified, or relocated stationary sources do not create net emission increases.

The SCAQMD monitors air quality within the project area. The SCAQMD has jurisdiction over an area of 10,743 square miles, consisting of Orange County; the non-desert portions of Los Angeles, Riverside, and San Bernardino counties; and the Riverside County portion of the Salton Sea Air Basin and Mojave Desert Air Basin. The Basin is a subregion of the SCAQMD and covers an area of 6,745 square miles. The Basin includes all of Orange County and the

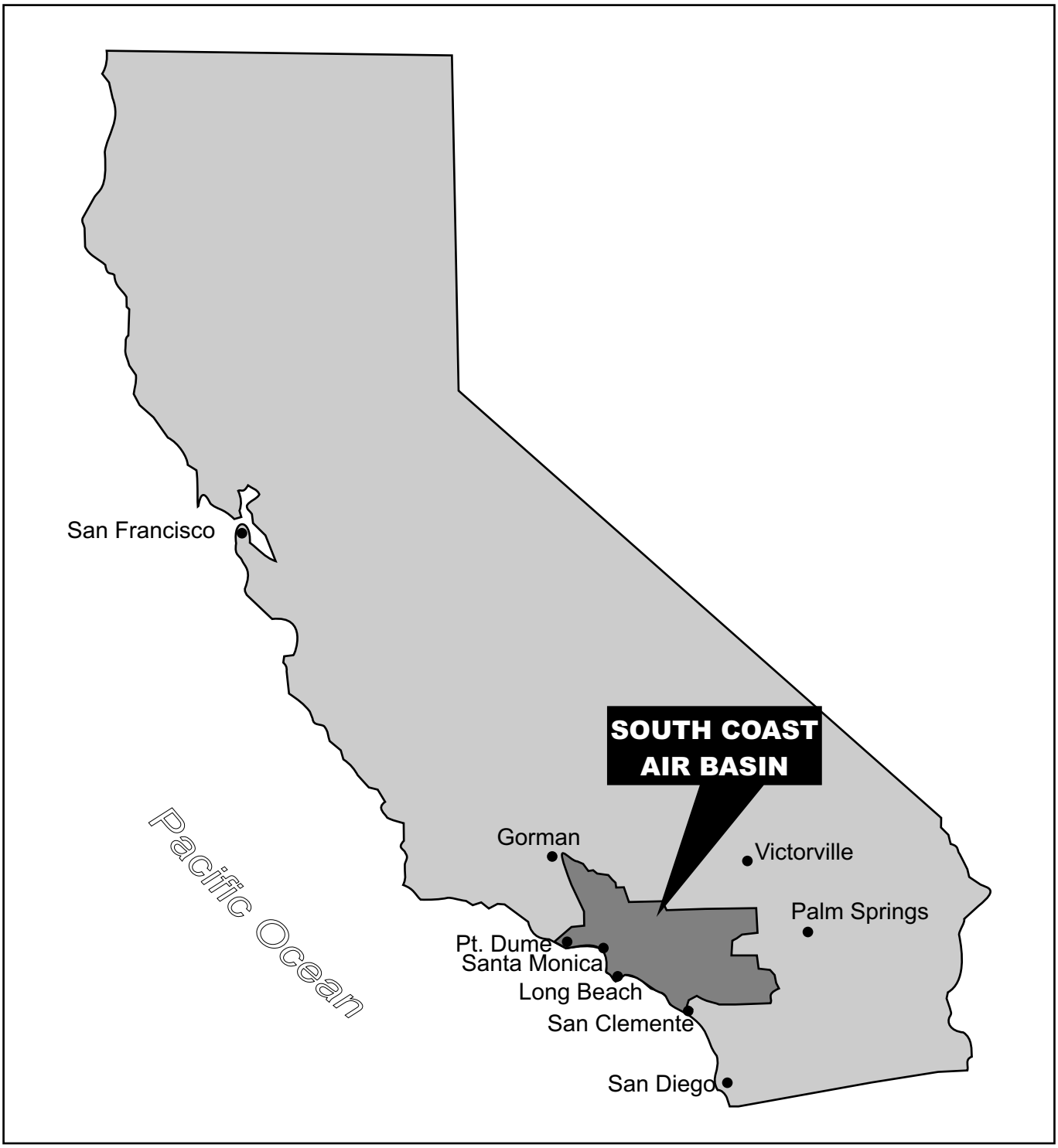
non-desert portions of Los Angeles, Riverside, and San Bernardino counties. The Basin is bounded by the Pacific Ocean to the west; the San Gabriel, San Bernardino and San Jacinto mountains to the north and east; and the San Diego County line to the south (**Figure 3-1**).

Air Quality Management Plan. All areas designated as nonattainment under the CCAA are required to prepare plans showing how the area would meet the State air quality standards by its attainment dates. The Air Quality Management Plan (AQMP) is the SCAQMD plan for improving regional air quality. It addresses CAA and CCAA requirements and demonstrates attainment with State and federal ambient air quality standards. The AQMP is prepared by SCAQMD and the Southern California Association of Governments (SCAG). The AQMP provides policies and control measures that reduce emissions to attain both State and federal ambient air quality standards by their applicable deadlines. Environmental review of individual projects within the Basin must demonstrate that daily construction and operational emissions thresholds, as established by the SCAQMD, would not be exceeded. The environmental review must also demonstrate that individual projects would not increase the number or severity of existing air quality violations.

The 2007 AQMP was adopted by the SCAQMD on June 1, 2007. The 2007 AQMP proposes attainment demonstration of the federal $PM_{2.5}$ standards through a more focused control of SO_X, directly-emitted $PM_{2.5}$, and NO_X supplemented with VOC by 2015. The eight-hour ozone control strategy builds upon the $PM_{2.5}$ strategy, augmented with additional NO_X and VOC reductions to meet the standard by 2024. The 2007 AQMP also addresses several federal planning requirements and incorporates significant new scientific data, primarily in the form of updated emissions inventories, ambient measurements, new meteorological episodes, and new air quality modeling tools. The 2007 AQMP is consistent with and builds upon the approaches taken in the 2003 AQMP. However, the 2007 AQMP highlights the significant amount of reductions needed and the urgent need to identify additional strategies, especially in the area of mobile sources, to meet all federal criteria pollutant standards within the time frames allowed under the CAA.

Toxic Air Contaminants. The SCAQMD has a long and successful history of reducing air toxics and criteria emissions in the South Coast Air Basin (Basin). SCAQMD has an extensive control program, including traditional and innovative rules and policies. These policies can be viewed in the SCAQMD's *Air Toxics Control Plan for the Next Ten Years* (March 2000). To date, the most comprehensive study on air toxics in the Basin is the Multiple Air Toxics Exposure Study (MATES-III), conducted by the SCAQMD. The monitoring program measured more than 30 air pollutants, including both gases and particulates. The monitoring study was accompanied by a computer modeling study in which SCAQMD estimated the risk of cancer from breathing toxic air pollution throughout the region based on emissions and weather data. MATES-III found that the cancer risk in the region from carcinogenic air pollutants ranges from about 870 in a million to 1,400 in a million, with an average regional risk of about 1,200 in a million.

An addendum to the plan was completed in March 2004 that included a status update on the implementation of the various mobile and stationary source strategies. Revised projections were based on accomplishments thus far and a new inventory was included to reflect the updated 2003 AQMP.



LEGEND:

South Coast Air Basin

State of California

SOURCE: California Air Resources Board, State and Local Air Monitoring Network Plan, October 1998

APPROX. SCALE

N

0 75 150 MILES

taha

San Fernando Valley Water Recycling Project
Air Quality Impact Report

taha 2012-017 AECOM

FIGURE 3-1

SOUTH COAST AIR BASIN

Global Climate Change

In response to growing scientific and political concern with global climate change, California adopted a series of laws to reduce emissions of GHGs into the atmosphere. Applicable regulations are provided below.

Executive Order S-3-05. On June 1, 2005, Executive Order (E.O.) S-3-05 set the following GHG emission reduction targets: by 2010, reduce GHG emissions to 2000 levels; by 2020, reduce GHG emissions to 1990 levels; and by 2050, reduce GHG emissions to 80 percent below 1990 levels. The Executive Order establishes State GHG emission targets of 1990 levels by 2020 (the same as AB 32) and 80 percent below 1990 levels by 2050. It calls for the Secretary of California Environmental Protection Agency (Cal/EPA) to be responsible for coordination of State agencies and progress reporting. A recent California Energy Commission report concludes, however, that the primary strategies to achieve this target should be major "decarbonization" of electricity supplies and fuels, and major improvements in energy efficiency.

In response to the E.O., the Secretary of the Cal/EPA created the Climate Action Team (CAT). California's CAT originated as a coordinating council organized by the Secretary for Environmental Protection. It included the Secretaries of the Natural Resources Agency, and the Department of Food and Agriculture, and the Chairs of the Air Resources Board, Energy Commission, and Public Utilities Commission. The original council was an informal collaboration between the agencies to develop potential mechanisms for reductions in GHG emissions in the State. The council was given formal recognition in E.O. S-3-05 and became the CAT.

The original mandate for the CAT was to develop proposed measures to meet the emission reduction targets set forth in the executive order. The CAT has since expanded and currently has members from 18 State agencies and departments. The CAT also has ten working groups which coordinate policies among their members. The working groups and their major areas of focus are:

- Agriculture: Focusing on opportunities for agriculture to reduce GHG emissions through efficiency improvements and alternative energy projects, while adapting agricultural systems to climate change
- Biodiversity: Designing policies to protect species and natural habitats from the effects of climate change
- Energy: Reducing GHG emissions through extensive energy efficiency policies and renewable energy generation
- Forestry: Coupling GHG mitigation efforts with climate change adaptation related to forest preservation and resilience, waste to energy programs and forest offset protocols
- Land Use and Infrastructure: Linking land use and infrastructure planning to efforts to reduce GHG from vehicles and adaptation to changing climatic conditions
- Oceans and Coastal: Evaluating the effects sea level rise and changes in coastal storm patterns on human and natural systems in California
- Public Health: Evaluating the effects of GHG mitigation policies on public health and adapting public health systems to cope with changing climatic conditions
- Research: Coordinating research concerning impacts of and responses to climate change in California
- State Government: Evaluating and implementing strategies to reduce GHG emissions resulting from State government operations; an

- Water: Reducing GHG impacts associated with the State's water systems and exploring strategies to protect water distribution and flood protection infrastructure

The CAT is responsible for preparing reports that summarize the State's progress in reducing GHG emissions. The most recent CAT Report was published in December 2010. The CAT Report discusses mitigation and adaptation strategies, State research programs, policy development, and future efforts.

Assembly Bill 32. In September 2006, the State passed the California Global Warming Solutions Act of 2006, also known as Assembly Bill (AB) 32, into law. AB 32 focuses on reducing GHG emissions in California, and requires the CARB to adopt rules and regulations that would achieve GHG emissions equivalent to Statewide levels in 1990 by 2020. To achieve this goal, AB 32 mandates that the CARB establish a quantified emissions cap, institute a schedule to meet the cap, implement regulations to reduce Statewide GHG emissions from stationary sources, and develop tracking, reporting, and enforcement mechanisms to ensure that reductions are achieved. Because the intent of AB 32 is to limit 2020 emissions to the equivalent of 1990, it is expected that the regulations would affect many existing sources of GHG emissions and not just new general development projects. Senate Bill (SB) 1368, a companion bill to AB 32, requires the California Public Utilities Commission and the California Energy Commission to establish GHG emission performance standards for the generation of electricity. These standards will also apply to power that is generated outside of California and imported into the State.

AB 32 charges CARB with the responsibility to monitor and regulate sources of GHG emissions in order to reduce those emissions. On June 1, 2007, CARB adopted three discrete early action measures to reduce GHG emissions. These measures involved complying with a low carbon fuel standard, reducing refrigerant loss from motor vehicle air conditioning maintenance, and increasing methane capture from landfills. On October 25, 2007, CARB tripled the set of previously approved early action measures. The approved measures include improving truck efficiency (i.e., reducing aerodynamic drag), electrifying port equipment, reducing perfluorocarbons from the semiconductor industry, reducing propellants in consumer products, promoting proper tire inflation in vehicles, and reducing sulfur hexaflouride emission from the non-electricity sector. The CARB has determined that the total Statewide aggregated GHG 1990 emissions level and 2020 emissions limit is 427 million metric tons of CO_2e. The 2020 target reductions are currently estimated to be 174 million metric tons of CO_2e.

The CARB AB 32 Scoping Plan contains the main strategies to achieve the 2020 emissions cap. The Scoping Plan was developed by the CARB with input from the CAT and proposes a comprehensive set of actions designed to reduce overall carbon emissions in California, improve the environment, reduce oil dependency, diversify energy sources, and enhance public health while creating new jobs and improving the State economy. The GHG reduction strategies contained in the Scoping Plan include direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, and market-based mechanisms such as a cap-and-trade system. Key approaches for reducing greenhouse gas emissions to 1990 levels by 2020 include:

- Expanding and strengthening existing energy efficiency programs as well as building and appliance standards;
- Achieving a Statewide renewable electricity standard of 33 percent;

- Developing a California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system;
- Establishing targets for transportation-related GHG emissions for regions throughout California, and pursuing policies and incentives to achieve those targets; and
- Adopting and implementing measures to reduce transportation sector emissions, including California's.

CARB has also developed the GHG mandatory reporting regulation, which required reporting beginning on January 1, 2008 pursuant to requirements of AB 32. The regulations require reporting for certain types of facilities that make up the bulk of the stationary source emissions in California. The regulation language identifies major facilities as those that generate more than 25,000 metric tons of CO_2 per year. Cement plants, oil refineries, electric generating facilities/providers, co-generation facilities, and hydrogen plants and other stationary combustion sources that emit more than 25,000 metric tons of CO_2 per year, make up 94 percent of the point source CO_2 emissions in California.

CEQA Guidelines Amendments. California Senate Bill (SB) 97 required the Governor's Office of Planning and Research (OPR) to develop CEQA Guidelines "for the mitigation of greenhouse gas emissions or the effects of greenhouse gas emissions." The CEQA Guidelines amendments provide guidance to public agencies regarding the analysis and mitigation of the effects of GHG emissions in CEQA documents. Noteworthy revisions to the CEQA Guidelines include:

- Lead agencies should quantify all relevant GHG emissions and consider the full range of project features that may increase or decrease GHG emissions as compared to the existing setting;
- Consistency with the CARB Scoping Plan is not a sufficient basis to determine that a project's GHG emissions would not be cumulatively considerable;
- A lead agency may appropriately look to thresholds developed by other public agencies, including the CARB's recommended CEQA thresholds;
- To qualify as mitigation, specific measures from an existing plan must be identified and incorporated into the project. General compliance with a plan, by itself, is not mitigation;
- The effects of GHG emissions are cumulative and should be analyzed in the context of CEQA's requirements for cumulative impact analysis; and
- Given that impacts resulting from GHG emissions are cumulative, significant advantages may result from analyzing such impacts on a programmatic level. If analyzed properly, later projects may tier, incorporate by reference, or otherwise rely on the programmatic analysis.

CARB Guidance. The CARB has published draft guidance for setting interim GHG significance thresholds (October 24, 2008). The guidance is the first step toward developing the recommended Statewide interim thresholds of significance for GHG emissions that may be adopted by local agencies for their own use. The guidance does not attempt to address every type of project that may be subject to CEQA, but instead focuses on common project types that are responsible for substantial GHG emissions (i.e., industrial, residential, and commercial projects). The CARB believes that thresholds in these important sectors will advance climate objectives, streamline project review, and encourage consistency and uniformity in the CEQA analysis of GHG emissions throughout the State.

SCAQMD Guidance. The SCAQMD has convened a GHG CEQA Significance Threshold Working Group to provide guidance to local lead agencies on determining significance for GHG emissions in their CEQA documents. Members of the working group include government agencies implementing CEQA and representatives from various stakeholder groups that will provide input to the SCAQMD staff on developing GHG CEQA significance thresholds. On December 5, 2008, the SCAQMD Governing Board adopted the staff proposal for an interim GHG significance threshold for projects where the SCAQMD is the lead agency. The SCAQMD has not adopted guidance for CEQA projects under other lead agencies.

Green LA Action Plan. The City of Los Angeles has issued guidance promoting green building to reduce GHG emissions. The goal of the Green LA Action Plan (Plan) is to reduce greenhouse gas emissions 35 percent below 1990 levels by 2030.[6] The Plan identifies objectives and actions designed to make the City a leader in confronting global climate change. The measures would reduce emissions directly from municipal facilities and operations, and create a framework to address City-wide GHG emissions. The Plan lists various focus areas in which to implement GHG reduction strategies. Focus areas listed in the Plan include energy, water, transportation, land use, waste, port, airport, and ensuring that changes to the local climate are incorporated into planning and building decisions. The Plan discusses City goals for each focus area, as follows:

Energy

- Increase the generation of renewable energy;
- Encourage the use of mass transit;
- Develop sustainable construction guidelines;
- Increase City-wide energy efficiency; and
- Promote energy conservation.

Water

- Decrease per capita water use to reduce electricity demand associated with water pumping and treatment.

Transportation

- Power the City vehicle fleet with alternative fuels; and
- Promote alternative transportation (e.g., mass transit and rideshare).

Other Goals

- Create a more livable City through land use regulations;
- Increase recycling, reducing emissions generated by activity associated with the Port of Los Angeles and regional airports;
- Create more City parks, promoting the environmental economic sector; and
- Adapt planning and building policies to incorporate climate change policy.

[6]City of Los Angeles, Green LA: An Action Plan to Lead the Nation in Fighting Global Warming, May 2007.

The City adopted an ordinance to establish a green building program in April 2008. The ordinance establishes green building requirements for projects involving 50 or more dwelling units. The Green Building Program was established to reduce the use of natural resources, create healthier living environments and minimize the negative impacts of development on local, regional, and global ecosystems. The program addresses the following five areas:

- Site: location, site planning, landscaping, storm water management, construction and demolition recycling
- Water Efficiency: efficient fixtures, wastewater reuse, and efficient irrigation
- Energy and Atmosphere: energy efficiency, and clean/renewable energy
- Materials and Resources: materials reuse, efficient building systems, and use of recycled and rapidly renewable materials
- Indoor Environmental Quality: improved indoor air quality, increased natural lighting, and thermal comfort/control

3.3 EXISTING AIR QUALITY

3.3.1 Air Pollution Climatology

The proposed alignment is located within the Los Angeles County portion of the Basin. Ambient pollution concentrations recorded in Los Angeles County are among the highest in the four counties comprising the Basin.

The Basin is in an area of high air pollution potential due to its climate and topography. The general region lies in the semi-permanent high pressure zone of the eastern Pacific, resulting in a mild climate tempered by cool sea breezes with light average wind speeds. The Basin experiences warm summers, mild winters, infrequent rainfalls, light winds, and moderate humidity. This usually mild climatological pattern is interrupted infrequently by periods of extremely hot weather, winter storms, or Santa Ana winds. The Basin is a coastal plain with connecting broad valleys and low hills, bounded by the Pacific Ocean to the west and high mountains around the rest of its perimeter. The mountains and hills within the area contribute to the variation of rainfall, temperature, and winds throughout the region.

The Basin experiences frequent temperature inversions. Temperature typically decreases with height. However, under inversion conditions, temperature increases as altitude increases, thereby preventing air close to the ground from mixing with the air above it. As a result, air pollutants are trapped near the ground. During the summer, air quality problems are created due to the interaction between the ocean surface and the lower layer of the atmosphere. This interaction creates a moist marine layer. An upper layer of warm air mass forms over the cool marine layer, preventing air pollutants from dispersing upward. Additionally, hydrocarbons and NO_2 react under strong sunlight, creating smog. Light, daytime winds, predominantly from the west, further aggravate the condition by driving air pollutants inland, toward the mountains. During the fall and winter, air quality problems are created due to CO and NO_2 emissions. CO concentrations are generally worse in the morning and late evening (around 10:00 p.m.). In the morning, CO levels are relatively high due to cold temperatures and the large number of cars traveling. High CO levels during the late evenings are a result of stagnant atmospheric conditions trapping CO in the area. Since CO emissions are produced almost entirely from automobiles, the highest CO concentrations in the Basin are associated with heavy traffic. NO_2 concentrations are also generally higher during fall and winter days.

3.3.2 Local Climate

The mountains and hills within the Basin contribute to the variation of rainfall, temperature, and winds throughout the region. Within the project site and its vicinity, the average wind speed, as recorded at the Canoga Park Wind Monitoring Station, is approximately three mph with calm winds occurring 16.6 percent of the time. Wind in the vicinity of the project site predominately blows from the east.[7]

The annual average temperature in the project area is 63.7°F.[8] The project area experiences an average winter temperature of 55.0°F and an average summer temperature of 72.5°F. Total precipitation in the proposed project area averages approximately 16.2 inches annually. Precipitation occurs mostly during the winter and relatively infrequently during the summer. Precipitation averages 9.8 inches during the winter, 4.0 inches during the spring, 2.3 inches during the fall, and less than one inch during the summer.[9]

3.3.3 Air Monitoring Data

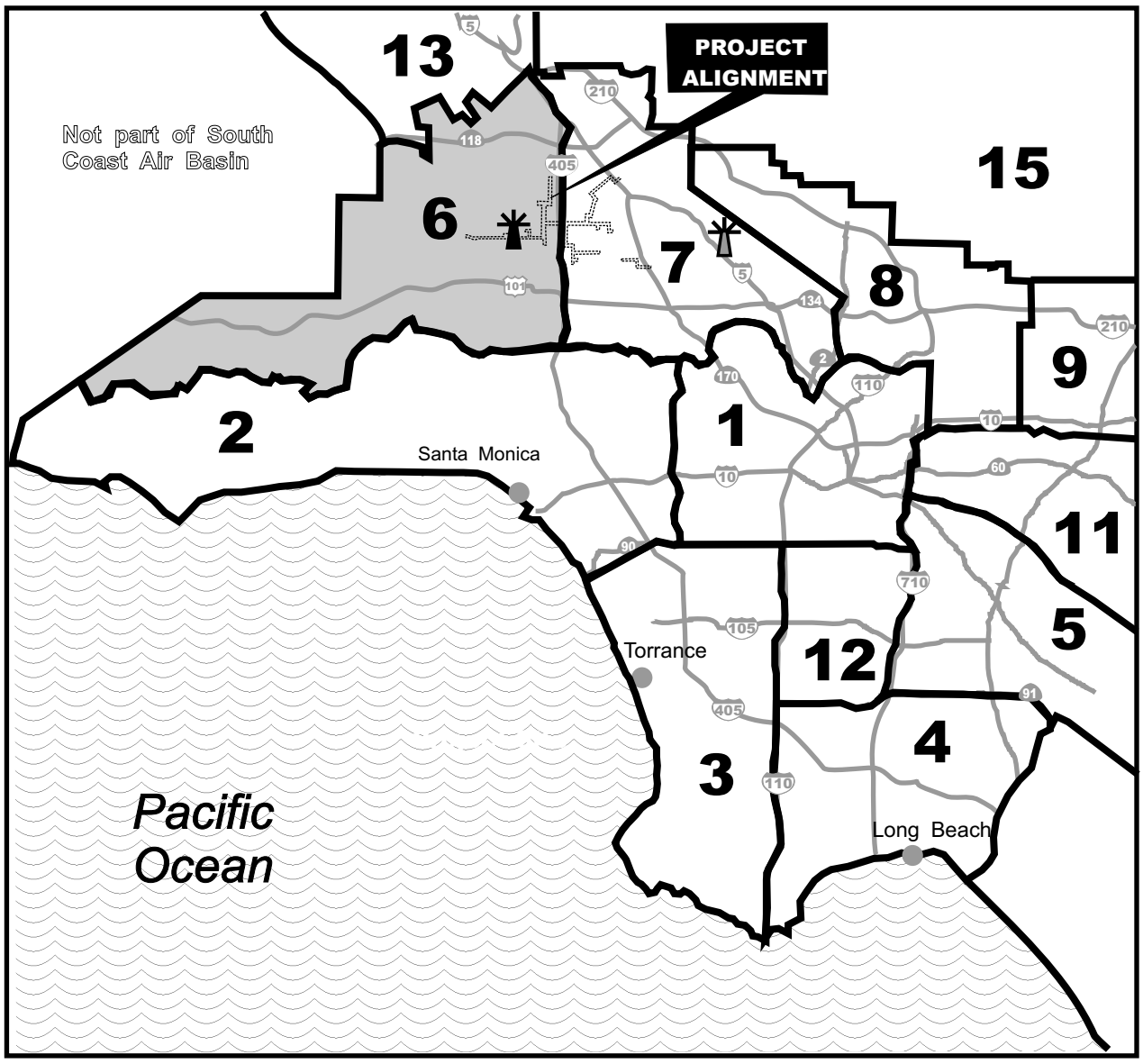
The SCAQMD monitors air quality conditions at 38 locations throughout the Basin. The project site is located in SCAQMD's West San Fernando Valley Air Monitoring Subregion, which is served by the Reseda Monitoring Station. The Reseda Monitoring Station is located on 18330 Gault Street and is approximately four miles east of the proposed alignment (**Figure 3-2**). Historical data from the Reseda Monitoring Station were used to characterize existing conditions in the vicinity of the project area. Criteria pollutants monitored at the Reseda Monitoring Station include O_3, CO, $PM_{2.5}$, and NO_2. The Reseda Monitoring Station does not monitor PM_{10} and SO_2 emissions. The most representative monitoring station that measures PM_{10} and SO_2 concentrations is the Burbank – West Palm Avenue located on 228 West Palm Avenue, approximately 18 miles east of the proposed alignment.

Table 3-2 shows pollutant levels, the State standards, and the number of exceedances recorded at the Reseda and Burbank – West Palm Avenue Monitoring Stations from 2009 to 2011. As **Table 3-2** indicates, criteria pollutants CO, NO_2, and SO_2 did not exceed the State standards from 2009 to 2011. However, the one-hour State standard for O_3 was exceeded 11 to 17 times during this period. The eight-hour State standard for O_3 was exceeded 31 to 37 times. The 24-hour State standard for PM_{10} was exceeded zero to ten times during this period and the annual State standard for $PM_{2.5}$ was also exceeded each year from 2009 to 2011.

[7]SCAQMD, Meteorological Data, available at http://www.aqmd.gov/smog/metdata/MeteorologicalData.html, accessed May 15, 2012. See Appendix A.

[8]Western Regional Climate Center, Historical Climate Information, available at http://www.wrcc.dri.edu, accessed May 15, 2012.

[9]*Ibid*.



LEGEND: Reseda Monitoring Station Burbank Monitoring Station

Air Monitoring Areas in Los Angeles County:

1. Central Los Angeles
2. Northwest Coastal
3. Southwest Coastal
4. South Coastal
5. Southeast Los Angeles County
6. West San Fernando Valley
7. East San Fernando Valley
8. West San Gabriel Valley
9. East San Gabriel Valley
10. Pomona/Walnut Valley (not shown)
11. South San Gabriel Valley
12. South Central Los Angeles
13. Santa Clarita Valley
14. Antelope Valley (not shown)
15. San Gabriel Mountains

APPROX. SCALE

0 4.5 9.0 MILES

SOURCE: South Coast Air Quality Management District Air Monitoring Areas Map, 1999

FIGURE 3-2

AIR MONITORING AREAS

TABLE 3-2: 2009-2011 AMBIENT AIR QUALITY DATA

Pollutant	Pollutant Concentration & Standards	2009	2010	2011
Ozone (O_3)	Maximum 1-hr Concentration (ppm)	0.14	0.12	0.13
	Days > 0.09 ppm (State 1-hr standard)	15	11	17
	Maximum 8-hr Concentration (ppm)	0.10	0.09	0.10
	Days > 0.07 ppm (State 8-hr standard)	31	37	35
Carbon Monoxide (CO)	Maximum 1-hr concentration (ppm)	4	3	n/a
	Days > 20 ppm (State1-hr standard)	0	0	n/a
	Maximum 8-hr concentration (ppm)	3.3	2.6	2.8
	Days > 9.0 ppm (State 8-hr standard)	0	0	0
Nitrogen Dioxide (NO_2)	Maximum 1-hr Concentration (ppm)	0.07	0.08	0.07
	Days > 0.18 ppm (State 1-hr standard)	0	0	0
Respirable Particulate Matter (PM_{10})	Maximum 24-hr concentration ($\mu g/m^3$)	76	50	60
	Days > 50 $\mu g/m^3$ (State 24-hr standard)	10	0	2
Fine Particulate Matter ($PM_{2.5}$)	Maximum 24-hr concentration ($\mu g/m^3$)	54	50	53
	Exceed State Standard (12 $\mu g/m^3$)	Yes	Yes	Yes
Sulfur Dioxide(SO_2)	Maximum 24-hr Concentration (ppm)	0.003	0.004	0.002
	Days > 0.04 ppm (State 24-hr standard)	0	0	0

'n/a' = not available
SOURCE: CARB, Air Quality Data Statistics, *Top 4 Summary*, http://www.arb.ca.gov/adam/topfour/topfour1.php, accessed May 17, 2012.
CO pollutant concentration was obtained from SCAQMD, Historical Data by Year, available at http://www.aqmd.gov/smog/historicaldata.htm, accessed May 17, 2012.

3.3.4 Greenhouse Gas Emissions

The primary effect of rising global concentrations of atmospheric GHG levels is a rise in the average global temperature of approximately 0.2 degrees Celsius per decade, determined from meteorological measurements worldwide between 1990 and 2005. Climate change modeling using 2000 emission rates shows that further warming is likely to occur given the expected rise in global atmospheric GHG concentrations from innumerable sources of GHG emissions worldwide, which would induce further changes in the global climate system during the current century.[10] Adverse impacts from global climate change worldwide and in California include:

- Declining sea ice and mountain snowpack levels, thereby increasing sea levels and sea surface evaporation rates with a corresponding increase in atmospheric water vapor due to the atmosphere's ability to hold more water vapor at higher temperatures;[11]

- Rising average global sea levels primarily due to thermal expansion and the melting of glaciers, ice caps, and the Greenland and Antarctic ice sheets;[12]

- Changing weather patterns, including changes to precipitation, ocean salinity, and wind patterns, and more energetic aspects of extreme weather including droughts, heavy precipitation, heat waves, extreme cold, and the intensity of tropical cyclones;[13]

[10]USEPA, Draft Endangerment Finding, 74 Fed. Reg. 18886, 18904, April 24, 2009.
[11]*Ibid*.
[12]Intergovernmental Panel on Climate Change, *Climate Change 2007*.

- Declining Sierra Mountains snowpack levels, which account for approximately half of the surface water storage in California, by 70 percent to as much as 90 percent over the next 100 years;[14]

- Increasing the number of days conducive to ozone formation (e.g., clear days with intense sun light) by 25 to 85 percent (depending on the future temperature scenario) in high O_3 areas located in the Southern California area and the San Joaquin Valley by the end of the 21st Century;[15] and

- Increasing the potential for erosion of California's coastlines and seawater intrusion into the Sacramento Delta and associated levee systems due to the rise in sea level.[16]

Scientific understanding of the fundamental processes responsible for global climate change has improved over the past decade. However, there remain significant scientific uncertainties, for example, in predictions of local effects of climate change, occurrence of extreme weather events, and effects of aerosols, changes in clouds, shifts in the intensity and distribution of precipitation, and changes in oceanic circulation. Due to the complexity of the climate system, the uncertainty surrounding the implications of climate change may never be completely eliminated. Because of these uncertainties, there continues to be significant debate as to the extent to which increased concentrations of GHGs have caused or will cause climate change, and with respect to the appropriate actions to limit and/or respond to climate change. In addition, it may not be possible to link specific development projects to future specific climate change impacts, though estimating project-specific impacts is possible.

California is the fifteenth largest emitter of GHG on the planet, representing about two percent of the worldwide emissions.[17] **Table 3-3** shows the California GHG emissions inventory for years 2000 to 2009. Statewide GHG emissions slightly decreased in 2009 due to a noticeable drop in on-road transportation, electricity generation, and industrial emissions.

TABLE 3-3: CALIFORNIA GREENHOUSE GAS EMISSIONS INVENTORY

	CO_2e Emissions (Million Metric Tons)									
Sector	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**
Transportation	172	175	181	179	183	186	187	187	178	173
Electric Power (In-State)	60	64	51	49	50	46	51	55	55	56
Electric Power (Imports)	46	59	59	65	66	63	55	60	66	48
Commercial and Residential	43	41	43	41	43	41	42	42	42	43
Industrial	97	93	94	92	94	93	92	90	87	81
Recycling and Waste	7	7	7	7	7	7	7	7	7	7
Agriculture	29	29	32	31	32	33	34	33	33	32
Forest Net Emissions	(4.5)	(4.3)	(4.2)	(4.2)	(4.2)	(4.0)	(3.9)	(3.9)	(3.8)	(3.8)
Emissions Total	**459**	**475**	**475**	**472**	**484**	**479**	**478**	**485**	**481**	**453**

SOURCE: CARB, *California Greenhouse Gas Inventory 2000-2009*, December 2011.

[13] *Ibid*.
[14] Cal/EPA, Climate Action Team, *Climate Action Team Report to Governor Schwarzenegger and the Legislature*, 2006.
[15] *Ibid*.
[16] *Ibid*.
[17] CARB, Climate Change Scoping Plan, December 2008.

The transportation sector – largely the cars and trucks that move people and goods – is the largest contributor with 38 percent of the State's total GHG emissions in 2009. On-road emissions (from passenger vehicles and heavy duty trucks) constitute 93 percent of the transportation sector total emissions. Of the on-road vehicles, light duty passenger vehicles accounted for approximately 74 percent of the total sector emissions in 2009 GHG emissions. Transportation emissions showed a decline from 187 million metric tons of CO_2e in 2007 to 173 million metric tons of CO_2e in 2009.

The electricity sector is the next largest contributor at approximately 23 percent of the Statewide GHG emissions. This sector includes power plants and cogeneration facilities that generate electricity for on-site use and for sale to the power grid. In 2009, this sector emitted approximately 105 million metric ton of CO_2e. Emissions from imported electricity generation from specified imports, unspecified imports, and transmission and distribution accounts for 68, 31, and less than 1 percent, respectively. In-State electricity generation includes CHP commercial, CHP industrial, merchant owned, transmission and distribution, and utility owned. The percent contributions from CHP commercial is approximately 2, CHP industrial is approximately 30, merchant owned is approximately 57, transmission and distribution is approximately 1, and utility owned is approximately 18. Emissions from natural gas accounts for 87 percent of in-State GHG emissions associated with electricity generation.

The industrial sector is the third largest contributor to the Statewide GHG emissions. California's industrial sector includes industrial CHP useful heat, landfills, manufacturing, mining, oil and gas extraction, petroleum refining, petroleum marketing, pipelines, wastewater treatment, and other large industrial sources. Of these emitters, petroleum refining, manufacturing accounts for 32, oil extraction accounts for 25, gas extraction accounts for 15, CHP accounts for 12, and landfills accounts for 8 percent.

The sector termed recycling and waste management is a unique system, encompassing not just emissions from waste facilities but also the emissions associated with the production, distribution and disposal of products throughout the economy.

Although high global warming potential gases (e.g., PFCs, HFCs, and SF6) are a small contributor to historic GHG emissions, levels of these gases are projected to increase sharply over the next several decades making them a significant source by 2020. These gases are used in growing industries such as semiconductor manufacturing.
The forest sector GHG inventory includes CO_2 uptake and GHG emissions from wild and prescribed fires, the decomposition and combustion of residues from harvest and conversion/development, and wood products decomposition. The forest sector is unique in that forests both emit GHGs and absorb CO_2 through carbon sequestration. While the current inventory shows forests absorb 3.8 million metric tons of CO_2e, carbon sequestration has declined since 2000 due to losses of forest area and emission increases from decomposing wood products consumed in the State. For this reason, the 2020 projection assumes no net emissions from forests.

The agricultural GHG emissions shown are largely methane emissions from livestock, both from the animals and their waste. Emissions of GHG from fertilizer application are also important contributors from the agricultural sector. Opportunities to sequester CO_2 in the agricultural sector may also exist; however, additional research is needed to identify and quantify potential sequestration benefits.

3.3.5 Sensitive Receptors

Some land uses are considered more sensitive to changes in air quality than others, depending on the population groups and the activities involved. CARB has identified the following groups who are most likely to be affected by air pollution: children less than 14 years of age, the elderly over 65 years of age, athletes and people with cardiovascular and chronic respiratory diseases. According to the SCAQMD, sensitive receptors include residences, schools, playgrounds, child care centers, athletic facilities, long-term health care facilities, rehabilitation centers, convalescent centers and retirement homes.

As shown in **Figures 3-3 to 3-8**, samples of sensitive receptors within one-quarter mile (1,320 feet) along the six proposed pipeline segments include:

North Hollywood Park

- Single- and multi-family residences
- North Hollywood High School
- Oakwood Secondary School
- North Hollywood Library
- Toluca Lake Elementary School
- St. Paul's First Lutheran School
- East Valley High School

Valley Plaza Park

- Single- and multi-family residences
- James Madison Middle School
- Valley Plaza Park
- Valley Plaza Library
- Roy Romer Middle School

Van Nuys Sherman Oaks Park

- Single- and multi-family
- Sherman Oaks Hospital
- Van Nuys – Sherman Oaks Park
- Los Angeles Valley College
- The Church of Jesus Christ of Latter-Day Saints
- Chandler Elementary School
- Van Nuys Middle School

Reseda Park

- Single- and multi-family
- Birmingham High School
- High Tech High School
- Valley Alternative School
- Mulholland Middle School
- Reseda Park
- Newcastle Elementary School

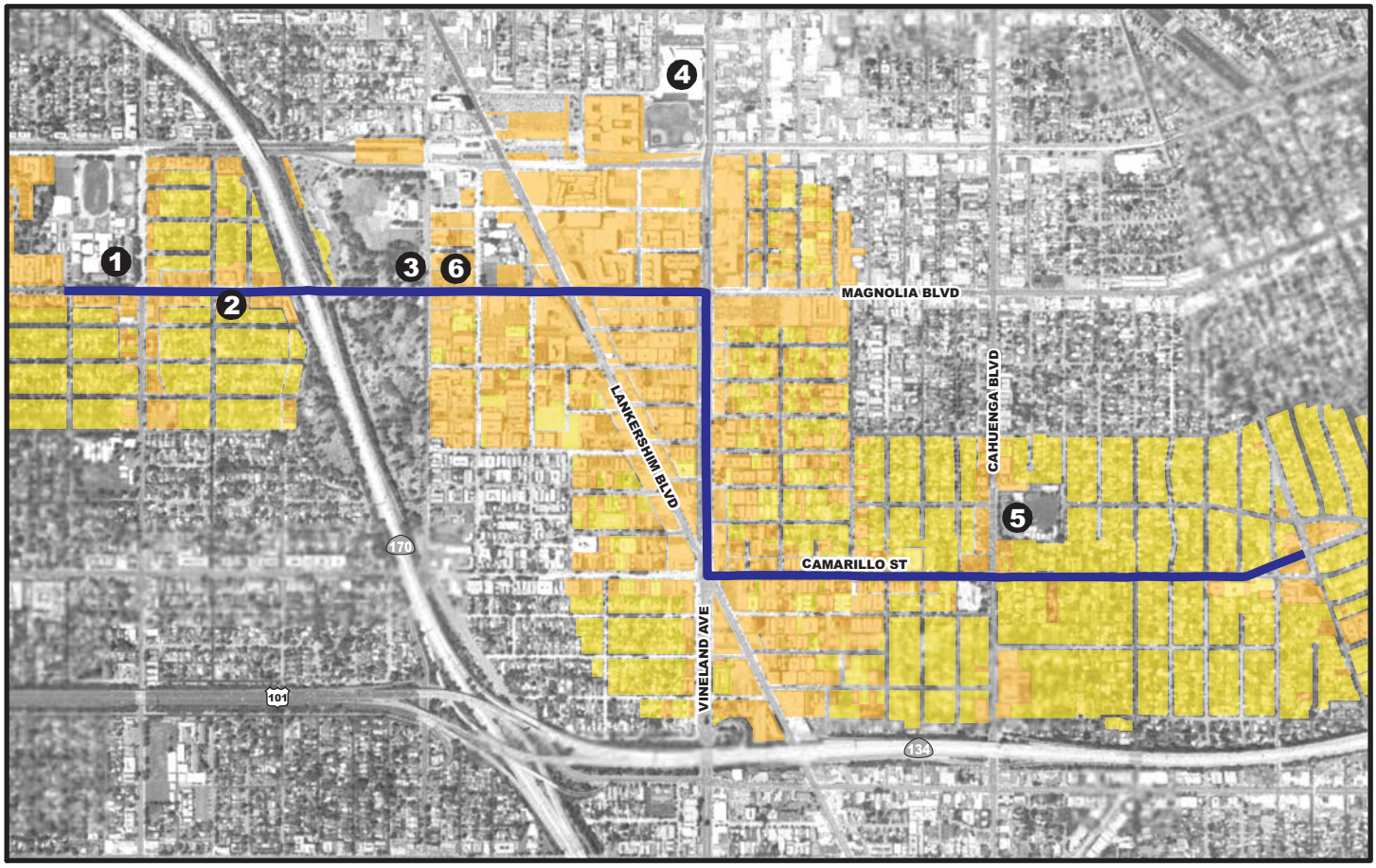
VA Hospital

- Single- and multi-family residences
- Monroe High School
- Centers of Learning
- VA Hospital
- Albert Einstein High School

Pierce College

- Sherman Oaks Center for Enriched Studies
- Single- and multi-family residences
- Pierce College
- Vanalden Elementary School

The above sensitive receptors represent the nearest residential land uses with the potential to be impacted by the proposed project. Additional sensitive receptors are located further from the project site in the surround community and would be less impacted by air emissions than the above sensitive receptors.



LEGEND:

- Proposed Alignment - North Hollywood Park Segment
- Single-Family Residences
- Multi-Family Residences
- # Air Quality Sensitive Receptor Locations

1. North Hollywood High School
2. Oakwood Secondary School
3. North Hollywood Library
4. East Valley High School
5. Toluca Lake Elementary School
6. St. Paul's First Lutheran School

SOURCE: Google Earth and TAHA, 2012.

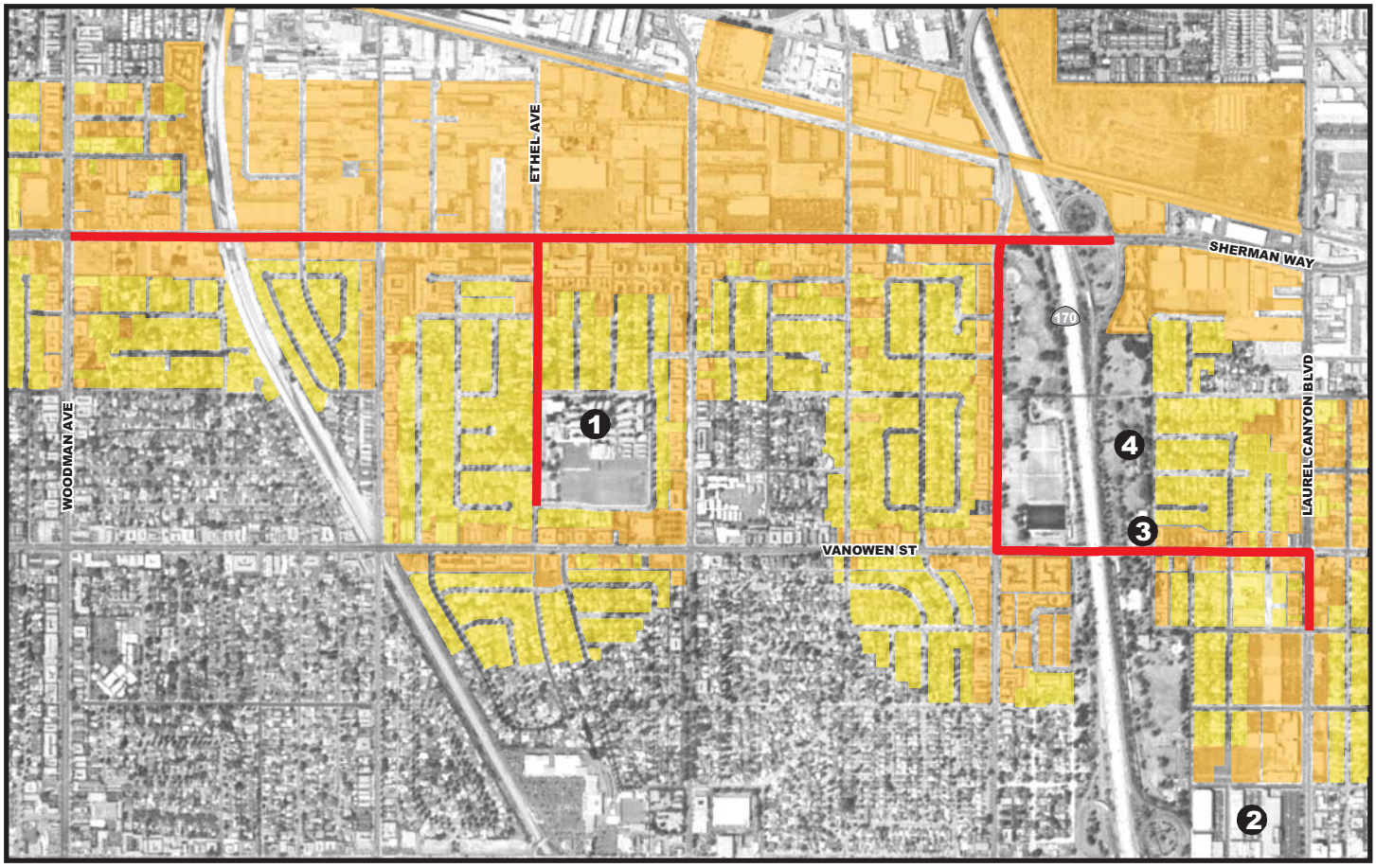
Approx. Scale

N

0 847 1,694 FEET

FIGURE 3-3

SENSITIVE RECEPTORS -
NORTH HOLLYWOOD PARK SEGMENT



LEGEND:

Proposed Alignment - Valley Plaza Park Segment

Single-Family Residences

Multi-Family Residences

(#) Air Quality Sensitive Receptor Locations

1. James Madison Middle School
2. Roy Romer Middle School
3. Valley Plaza Library
4. Valley Plaza Park

SOURCE: Google Earth and TAHA, 2012.

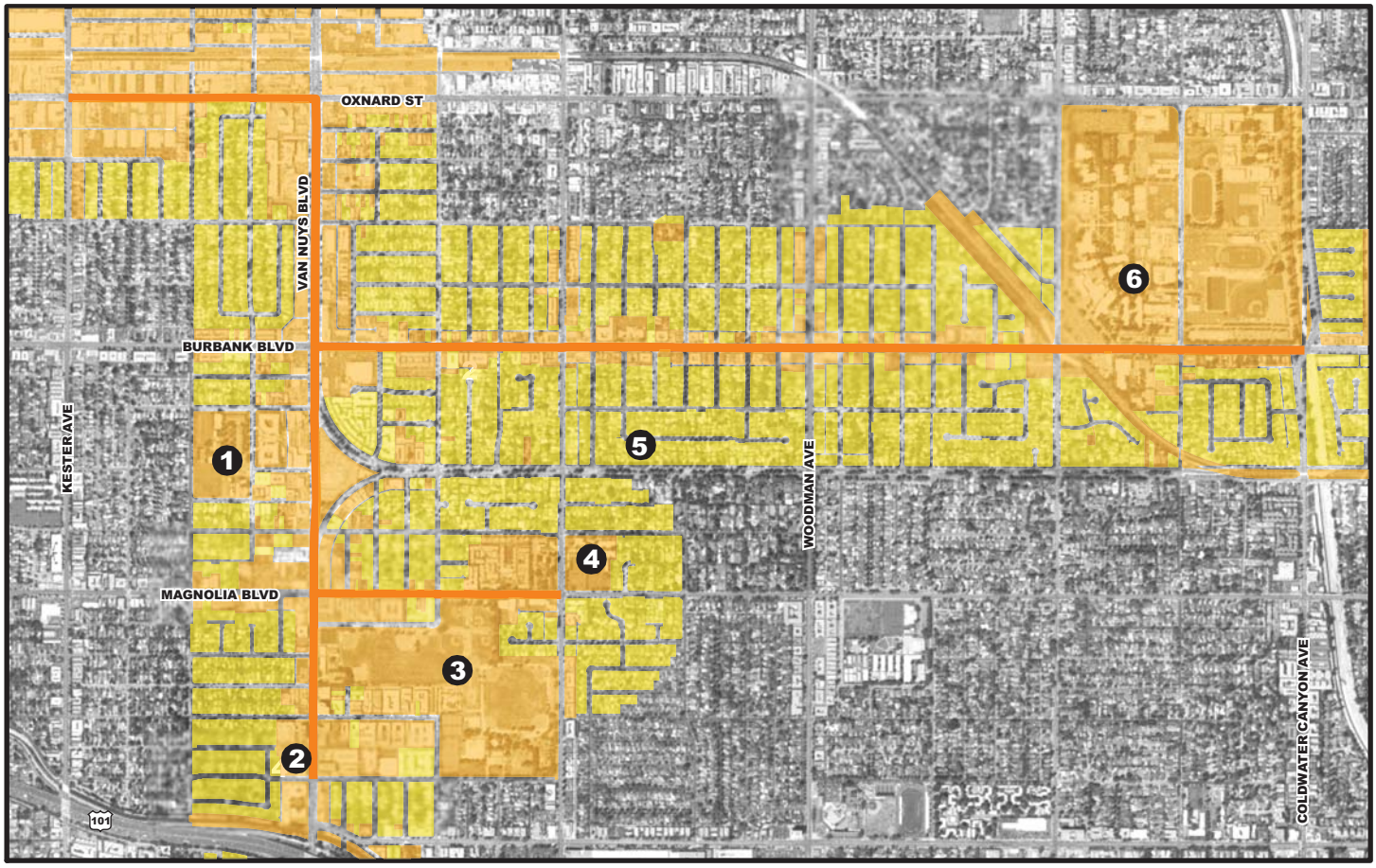
APPROX. SCALE

N

0 770 1,540 FEET

FIGURE 3-4

SENSITIVE RECEPTORS -
VALLEY PLAZA PARK SEGMENT



LEGEND:

Proposed Alignment - Van Nuys Sherman Oaks Park Segment

Single-Family Residences

Multi-Family Residences

Air Quality Sensitive Receptor Locations

1. Van Nuys Middle School
2. Sherman Oaks Hospital
3. Van Nuys-Sherman Oaks Park
4. Chandler Middle School
5. The Church of Jesus Christ of Latter-Day Saints
6. Los Angeles Valley College

Approx. Scale

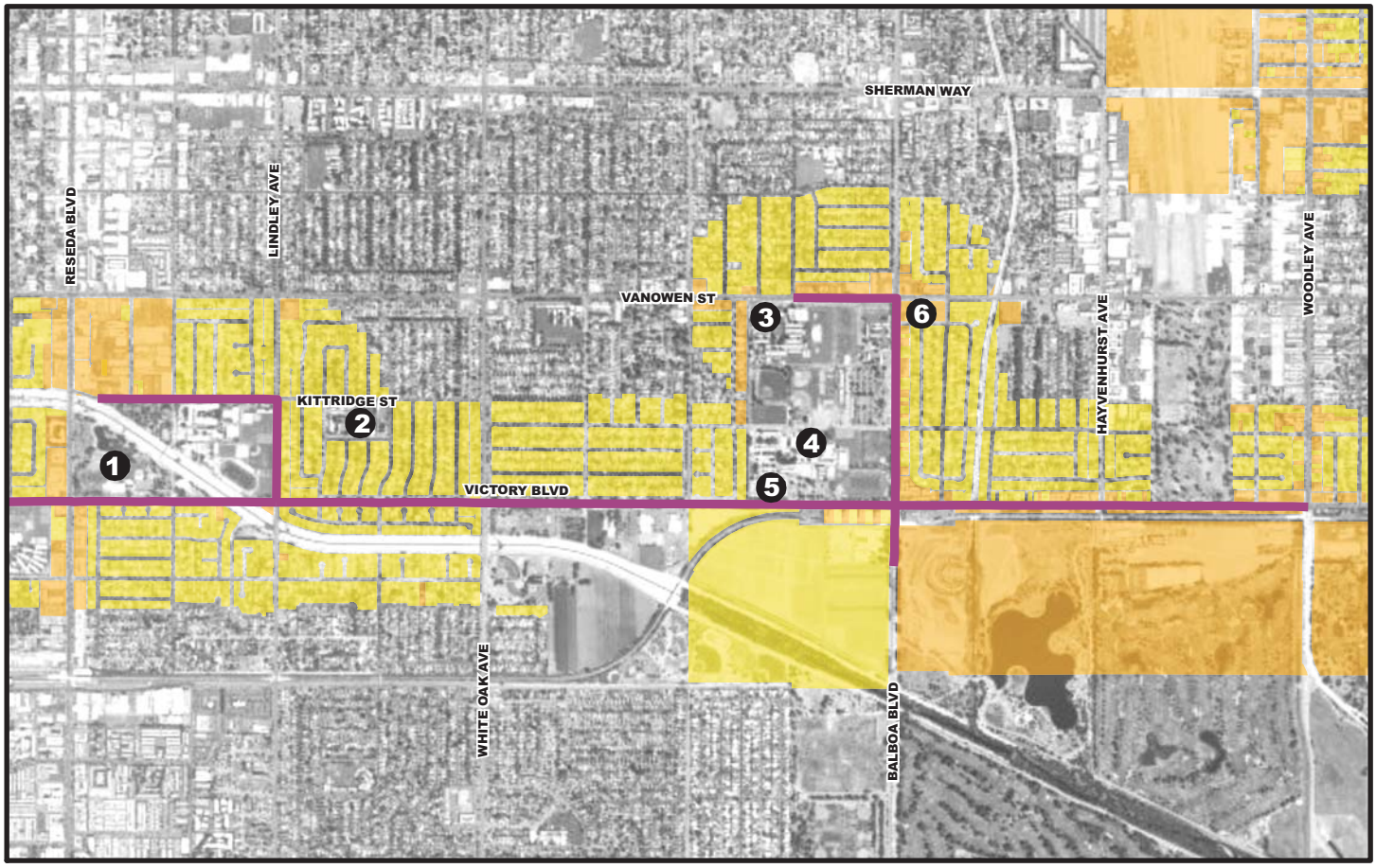
N

0 970 1,940 FEET

SOURCE: Google Earth and TAHA, 2012.

FIGURE 3-5

SENSITIVE RECEPTORS -
VAN NUYS SHERMAN OAKS PARK SEGMENT



LEGEND:

Proposed Alignment - Reseda Park Segment

Single-Family Residences

Multi-Family Residences

(#) Air Quality Sensitive Receptor Locations

1. Reseda Park
2. Newcastle Elementary School
3. Mulholland Middle School
4. Birmingham High School
5. High Tech High School
6. Valley Alternative School

APPROX. SCALE

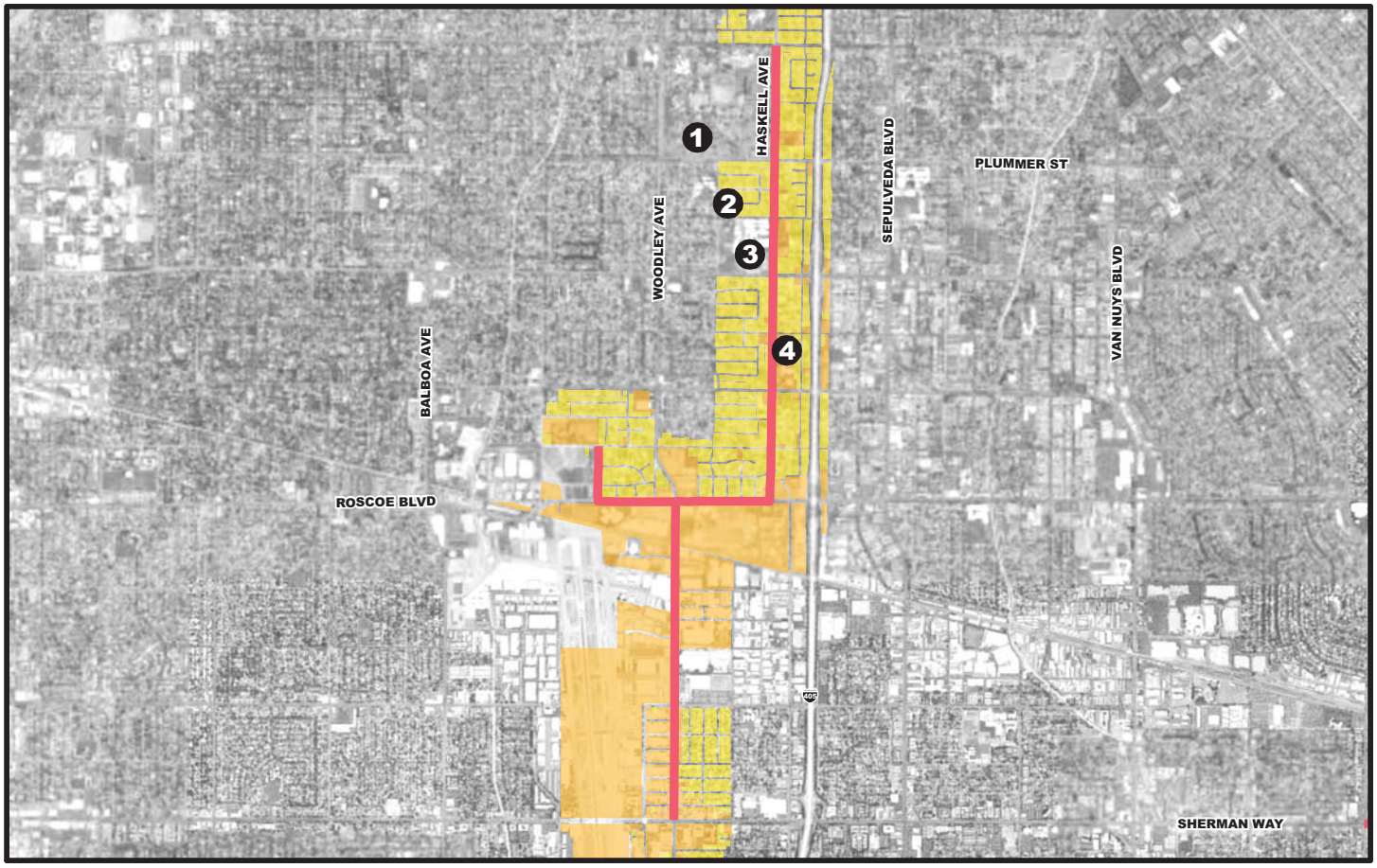
N

0 1,150 2,300 FEET

SOURCE: TAHA, 2012 and Google Earth, 2012.

FIGURE 3-6

SENSITIVE RECEPTORS - RESEDA PARK SEGMENT



LEGEND:

Proposed Alignment - Veterans Administration Hospital Segment

(#) Air Quality Sensitive Receptor Locations

1. Veterans Administration Hospital
2. Albert Einstein High School
3. Monroe High School
4. Centers of Learning

SOURCE: Google Earth and TAHA, 2012.

APPROX. SCALE

N

0 2,075 4,150 FEET

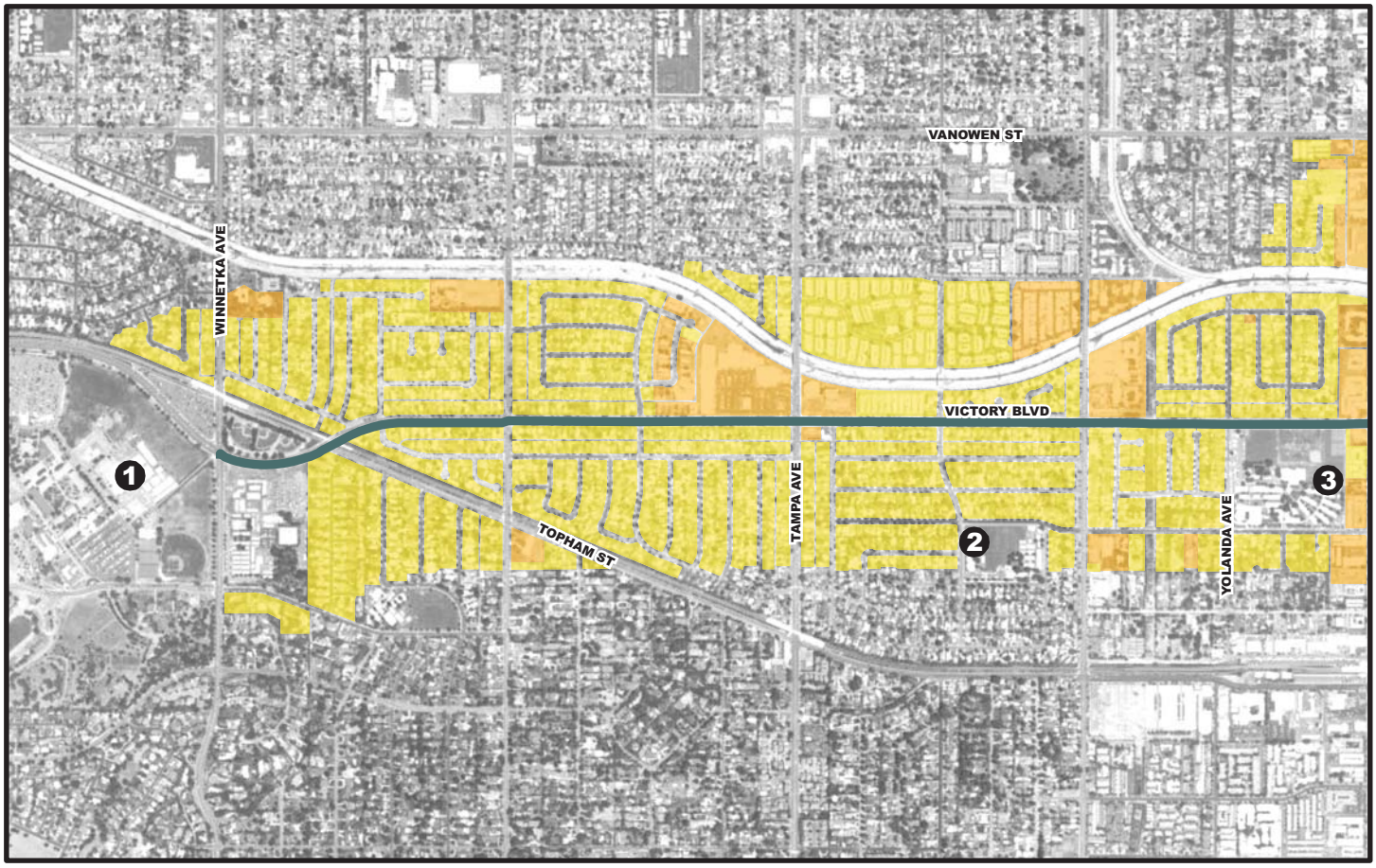
taha 2012-017

San Fernando Valley Water Recycling Project
Air Quality Impact Report

AECOM

FIGURE 3-7

SENSITIVE RECEPTORS -
VETERANS ADMINISTRATION HOSPITAL SEGMENT



LEGEND:

- Proposed Alignment - Pierce College Segment
- Single-Family Residences
- Multi-Family Residences
- # Air Quality Sensitive Receptor Locations

1. Pierce College
2. Vanalden Elementary School
3. Sherman Oaks Center for Enriched Studies

SOURCE: Google Earth and TAHA, 2012.

APPROX. SCALE

N

0 830 1,660 FEET

FIGURE 3-8

SENSITIVE RECEPTORS -
PIERCE COLLEGE SEGMENT

3.4 METHODOLOGY AND SIGNIFICANCE CRITERIA

3.4.1 Methodology

Potential impacts associated with air emissions were evaluated based on current SCAQMD guidance. This includes the SCAQMD *CEQA Air Quality Handbook* and associated updates on the SCAQMD website, and the *Localized Significance Methodology for CEQA Evaluations*.[18] In addition, emissions estimations formulas were obtained from the USEPA AP-42 *Compilation of Air Pollutant Emission Factors*.

The estimate of emissions was based upon a detailed spreadsheet provided by LADWP that described the construction process. The following assumptions are used to calculate emissions generated from construction activities:

- Total full-time operating equipment: 9
- Maximum daily personnel: 12
- Maximum daily haul truck round-trips: 12
- Amount of excavated material: 1,647,000 cubic feet
- Distance travelled to waste facility: 22.3 miles (one-way)

The complete spreadsheet is included in Appendix C, *Construction Emission Calculations*. The spreadsheet was used to characterize daily activity throughout the construction process. Equipment engine emissions were estimated using OFFROAD2007 and truck and commute trips emissions were estimated using EMFAC2011. Fugitive dust emissions from sources including excavation were estimated using AP-42 emission factors. The analysis compares the worst-case emissions day from each year of construction activity to the SCAQMD regional significance thresholds.

Localized on-site emissions (i.e., equipment exhaust and fugitive dust) were estimated as described above. The mass emissions were compared to the localized screening thresholds (LSTs) established by the SCAQMD.

3.4.2 Significance Criteria

The following are significance criteria that SCAQMD has established to assess construction and GHG impacts. The proposed project would not include operational activity and operational significant criteria are not relevant.

Construction Phase Significance Criteria

The proposed project would have a significant impact if:

- Daily localized or regional, construction emissions were to exceed SCAQMD thresholds for VOC, NO_X, CO, SO_X, $PM_{2.5}$ or PM_{10}, as presented in **Table 3-4**;
- The proposed project would generate significant emissions of TACs; and/or
- The proposed project would create an odor nuisance.

[18] SCAQMD, *Localized Significance Methodology*, June 2003, revised July 2008.

TABLE 3-4: SCAQMD DAILY CONSTRUCTION EMISSIONS THRESHOLDS		
Criteria Pollutant	**Regional Emissions (Pounds Per Day)**	**Localized Emissions (Pounds Per Day) /a/**
Volatile Organic Compounds (VOC)	75	--
Nitrogen Oxides (NO_X)	100	103
Carbon Monoxide (CO)	550	426
Sulfur Oxides (SO_X)	150	--
Fine Particulates ($PM_{2.5}$)	55	3
Particulates (PM_{10})	150	4
/a/ Localized thresholds based on 25-meter receptor distance and a one-acre project site. **SOURCE:** SCAQMD, 2012.		

Greenhouse Gas Significance Criteria

The SCAQMD has not approved a GHG significance threshold for the development of non-SCAQMD and non-industrial projects. The significance threshold is based on the methodologies recommended by the California Air Pollution Control Officers Association (CAPCOA) CEQA and Climate Change white paper (January 2008). CAPCOA conducted an analysis of various approaches and significance thresholds, ranging from a zero threshold (all projects are cumulatively considerable) to a high of 40,000 to 50,000 metric tons of CO_2e per year. For example, an approach assuming a zero threshold and compliance with AB 32 2020 targets would require all discretionary projects to achieve a 33 percent reduction from projected "business-as-usual" emissions to be considered less than significant. A zero threshold approach could be considered on the basis that climate change is a global phenomenon, and not controlling small source emissions would potentially neglect a major portion of the GHG inventory. However, the CEQA Guidelines also recognize that there may be a point where a project's contribution, although above zero, would not be a considerable contribution to the cumulative impact (CEQA Guidelines, Section 15130 [a]). Therefore, a threshold of greater than zero is considered more appropriate for the analysis of GHG emissions under CEQA.

Another method would use a quantitative threshold of greater than 900 metric tons CO_2e per year based on a market capture approach that requires mitigation for greater than 90 percent of likely future discretionary development. Another potential threshold would be the 10,000 metric tons standard used by the Market Advisory Committee for inclusion in a GHG Cap and Trade System in California. The basic concepts for the various approaches suggested by CAPCOA are used herein to determine whether or not the proposed project's GHG emissions are "cumulatively considerable."

The most conservative (i.e., lowest) thresholds, suggested by CAPCOA, would not be appropriate for the proposed project given that it is located in a community that is highly urbanized. Similarly, the 900-ton threshold was also determined to be too conservative for general development in the South Coast Air Basin. Consequently, the threshold of 10,000 metric tons CO_2e is used as a quantitative benchmark for significance.

3.5 ENVIRONMENTAL IMPACTS

3.5.1 Construction Phase

Regional Impacts

Construction of the proposed project has the potential to create air quality impacts through the use of heavy-duty construction equipment and through vehicle trips generated by construction workers traveling to and from the project site. Fugitive dust emissions would primarily result from demolition and site preparation (e.g., excavation) activities. NO_X emissions would primarily result from the use of construction equipment. The assessment of construction air quality impacts considers each of these potential sources. Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of operation and, for dust, the prevailing weather conditions.

It is mandatory for all construction projects in the Basin to comply with SCAQMD Rule 403 for Fugitive Dust. Specific Rule 403 control requirements include, but are not limited to, applying water in sufficient quantities to prevent the generation of visible dust plumes, applying soil binders to uncovered areas, reestablishing ground cover as quickly as possible, utilizing a wheel washing system to remove bulk material from tires and vehicle undercarriages before vehicles exit the project site, and maintaining effective cover over exposed areas. Compliance with Rule 403 would reduce regional $PM_{2.5}$ and PM_{10} emissions associated with construction activities by approximately 61 percent.

Table 3-5 shows the maximum daily emissions associated with construction activities. Regional construction emissions would not exceed the SCAQMD significance thresholds. Therefore, the proposed project would result in a less-than-significant impact related to regional construction emissions.

TABLE 3-5: REGIONAL CONSTRUCTION EMISSIONS

	Pounds Per Day					
Source	**VOC**	**NO_X**	**CO**	**SO_X**	**$PM_{2.5}$**	**PM_{10}**
Construction Equipment	5	34	25	5	2	2
Worker Vehicle	0.14	0.22	2.45	--	<1	<1
Off-Site Truck	0.22	3.46	1.07	--	<1	<1
Fugitive Dust	--	--	--	--	<1	<1
Maximum Regional Total	5	37	28	5	2	2
REGIONAL SIGNIFICANCE THRESHOLD	**75**	**100**	**550**	**150**	**55**	**150**
Exceed Threshold?	No	No	No	No	No	No

SOURCE: TAHA, 2012.

Localized Impacts

Construction activity would generate on-site pollutant emissions associated with equipment exhaust and fugitive dust. **Table 3-6** shows the estimated localized emissions associated with each construction year. Maximum daily VOC, NO_X, CO, SO_X, $PM_{2.5}$, and PM_{10} emissions would not exceed the SCAQMD LST. Therefore, the proposed project would result in a less-than-significant impacts related to localized concentrations.

TABLE 3-6: LOCALIZED CONSTRUCTION EMISSIONS

Source	Pounds Per Day					
	VOC	**NO_X**	**CO**	**SO_X**	**$PM_{2.5}$**	**PM_{10}**
Construction Equipment	5	34	25	5	2	2
Fugitive Dust	--	--	--	--	<1	<1
Maximum Localized Total	5	34	25	5	2	2
LOCALIZED SIGNIFICANCE THRESHOLD	**n/a**	**103**	**426**	**n/a**	**3**	**4**
Exceed Threshold?	No	No	No	No	No	No

SOURCE: TAHA, 2012.

Installation of the recycled water pipeline would restrict street parking and closure of up to two roadway lanes. Consequently, traffic flow would be affected whenever a mixed-flow traffic lane is closed for construction activities. Reduced speeds through construction zones would result in additional localized concentrations. Traffic congestion would lessen as some automobile travelers would reroute to parallel streets when lane closures would occur. The proposed project is not projected to substantially increase traffic congestion since road closures would be limited to off-peak periods. In addition, construction activities would be limited to 90 feet of the public roads at one time to minimize long-term traffic disruption. Therefore, the proposed project would result in a less-than-significant impact related to localized traffic concentrations.

Toxic Air Contaminant Impacts

The greatest potential for TAC emissions during construction would be diesel particulate emissions associated with heavy-duty equipment operations. The SCAQMD has not published guidance for assessing the risk from construction projects. The California Air Pollution Control Officers Association (CAPCOA) has published *Health Risk Assessments for Proposed Land Use Projects* (July 2009). Page 2 of the document states that, "This guidance does not include how risk assessments for construction projects should be addressed in CEQA. As this is intended to be a 'living document', the risks near construction projects are expected to be included at a later time as the toxic emissions from construction activities are better quantified. State risk assessment policy is likely to change to reflect current science, and therefore this document will need modification as this occurs." As regional and localized particulate matter emissions would not result in significant impacts, it is similarly anticipated that diesel particulate emissions would not result in a significant health impact. Therefore, the proposed project would result in a less-than-significant impact related to construction TAC emissions.

Odor Impacts

Potential sources that may emit odors during construction activities include equipment exhaust. Odors from these sources would be localized and generally confined to the immediate area surrounding the project site. The proposed project would utilize typical construction techniques, and the odors would be typical of most construction sites and temporary in nature. Therefore, the proposed project would result in a less-than-significant impact related to construction odors.

Construction Phase Mitigation Measures

Impacts related to regional and localized air emissions were determined to be less-than-significant without mitigation. In addition, the proposed project shall implement the following Best Management Practices during all phases of construction:

- The proposed shall implement Rule 403 dust control measures required by the SCAQMD.

- Residences and businesses near the pipeline alignment would be notified prior to the start of construction (e.g., flyers) of lane closures and parking restrictions in their vicinity. The notices shall include a telephone number for comments or questions related to construction activities.

- The proposed project construction would incorporate source reduction techniques and recycling measures and maintain a recycling program to divert waste in accordance with the Citywide Construction and Demolition Debris Recycling Ordinance.

Impacts After Mitigation

Regional Impacts. Impacts related to regional air emissions were determined to be less-than significant without mitigation.

Localized Impacts. Impacts related to localized air emissions were determined to be less-than- significant without mitigation.

Toxic Air Contaminant Impacts. Impacts related to toxic air contaminant emissions were determined to be less-than-significant without mitigation.

Odor Impacts. Impacts related to odors were determined to be less-than-significant without mitigation.

3.5.2 Operational Phase

Upon completion of the proposed pipeline route, the proposed project would not include any operational activities. Therefore, no impacts related to operational emissions would occur.

Operational Phase Mitigation Measures

No impacts related to operational air quality emissions would occur. No mitigation measures are required.

Impacts After Mitigation

No impacts related to operational air quality emissions would occur.

3.6 CUMULATIVE IMPACTS

3.6.1 SCAQMD Methodology

A significant impact would occur if the proposed project resulted in a cumulative net increase in any criteria pollutant above threshold standards. The SCAQMD's approach for assessing cumulative air quality impacts is based on the AQMP forecasts of attainment of ambient air quality standards in accordance with the requirements of the federal and State Clean Air Acts. The SCQAMD has set forth significance thresholds designed to assistant in the attainment of ambient air quality standards. The proposed project would not result in significant emissions after the implementation of mitigation. Therefore, the proposed project would not result in a cumulatively considerable impact related to construction air quality.

3.6.2 Global Climate Change

The GHG and climate change analysis considered project emissions and consistency with applicable GHG reduction plans and policies.

Greenhouse Gas Emissions

GHG emissions were estimated for equipment exhaust, truck trips, and worker commute trips. As mentioned previously, installation of the six pipeline segments is scheduled to be completed in five years (2017 to 2021). Based on SCAQMD guidance, construction emissions amortized over a 30-year span. As shown in **Table 3-7**, estimated GHG emission would be 131 tons per year. Estimated GHG emissions would be less than the 10,000 metric tons of CO_2e per year quantitative significance threshold. The proposed project would not include significant sources of constructional and operational emissions. The proposed project would in no way conflict with any State or local climate change policy or regulation. Therefore, the proposed project would result in a less-than-significant impact related to GHG emissions.

TABLE 3-7: ANNUAL GREENHOUSE GAS EMISSIONS

Source	Carbon Dioxide Equivalent (Metric Tons per Year)
Construction Emissions Amortized	131
SIGNIFICANCE THRESHOLD	**10,000**
Exceed Threshold?	No

SOURCE: TAHA, 2012.

Appendices

A. Wind & Climate Information
B. CARB Data
C. Construction Emission Calculations
D. GHG Emission Calculations
E. EMFAC2011 Output Files
F. SCAQMD Rule 403 – Fugitive Dust

Appendix A

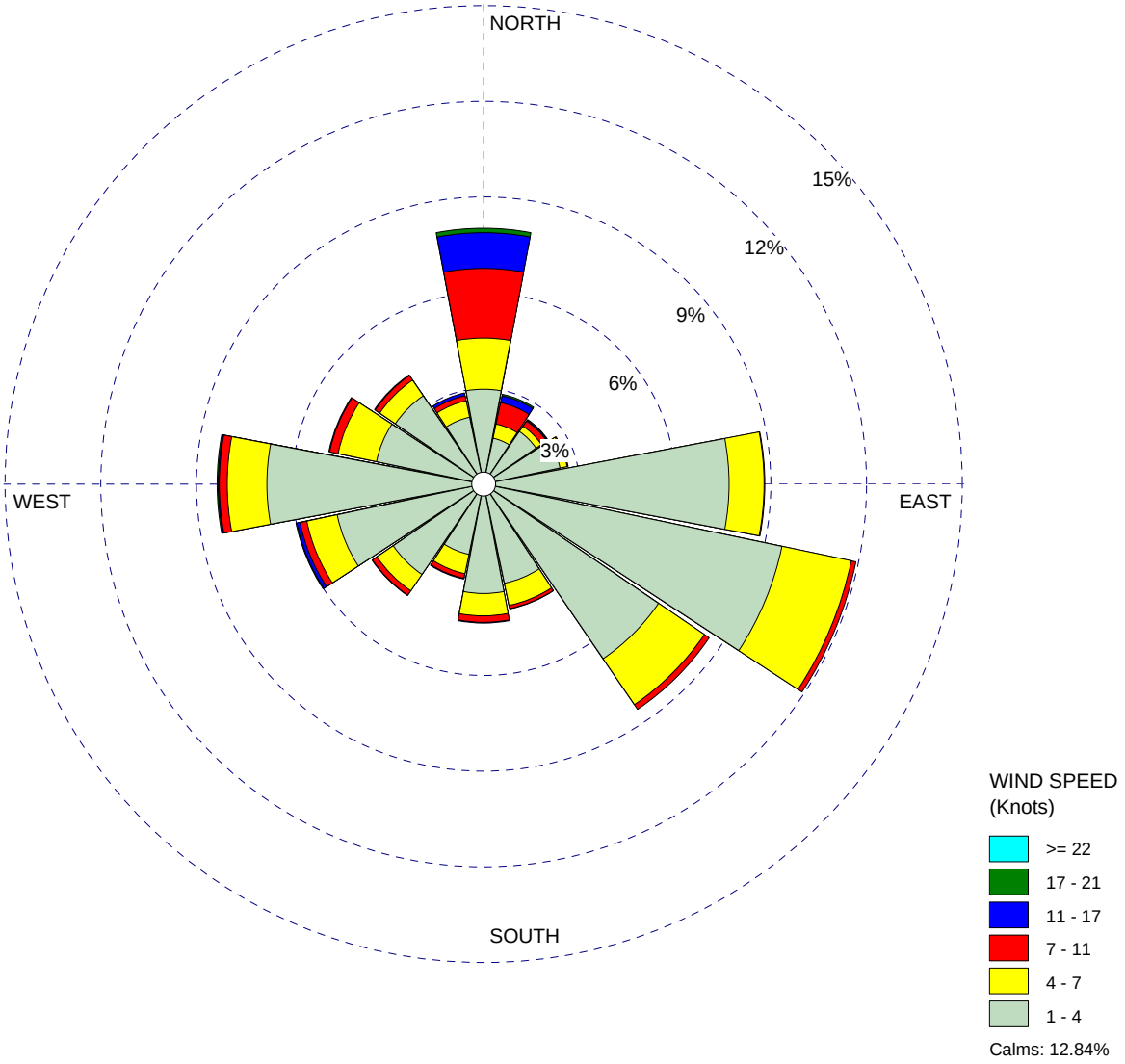
Wind and Climate Information

WIND ROSE PLOT:

San Fernando Valley Water Recycling Project
Reseda Wind Monitoring Station

DISPLAY:

Wind Speed
Direction (blowing from)



COMMENTS:	DATA PERIOD: **Start Date: 1/1/1981 - 00:00** **End Date: 12/31/1981 - 23:00**	COMPANY NAME:	
		MODELER:	
	CALM WINDS: **12.84%**	TOTAL COUNT: **8760 hrs.**	
	AVG. WIND SPEED: **3.04 Knots**	DATE: **6/4/2012**	PROJECT NO.: **2012-017**

Southern California Climate Summaries

Back to: Western U.S. map Home Page
Alphabetical Station List

- Alpine
- Ash Mountain
- Avalon Pleasure Pier
- Bakersfield WSO
- Barstow
- Barstow Fire Station
- Beaumont 1 E
- Big Bear Lake
- Blythe
- Blythe CCA Airport
- Borrego Desert Park
- Brawley 2 SW
- Buttonwillow
- Cachuma Lake
- Campo
- Cantil
- Carmel Valley
- Chula Vista
- Coalinga
- Corcoran Irrig. Dist.
- Cuyamaca
- Daggett
- Death Valley
- Dry Canyon Reservoir
- Eagle Mountain
- El Cajon
- El Capitan Dam
- El Centro 2 SSW
- El Mirage Field
- Escondido
- Escondido 2
- Fairmont
- Five Points 5 SSW
- Fresno WSO
- Giant Forest
- Glennville
- Gold Rock Ranch
- Grant Grove
- Haiwee
- Hanford 1 S
- Hayfield Reservoir
- Henshaw Dam
- Hollister
- Idyllwild Fire Dept.
- Imperial
- Independence
- Indio Fire Station

Los Angeles Basin Area, California Climate Summaries

Back to: Western U.S. map Home Page
Alphabetical Station List

- Burbank Valley Pump Plant
- Canoga Park Pierce College
- Claremont Pomona College
- Corona
- Culver City
- Elsinore
- Fontana Kaiser
- Laguna Beach
- Lake Arrowhead
- Long Beach
- Los Angeles Airport
- Los Angeles Civic Center
- Montebello
- Mount Wilson
- Newport Beach Harbor
- Pasadena
- Pomona Cal Poly
- Redlands
- Riverside Citrus Exp. Farm
- Riverside Fire Station 3
- San Bernardino
- San Fernando
- San Gabriel Fire Dept.
- San Pedro
- Santa Ana Fire Station
- Santa Monica Pier
- Sun City
- Torrance
- Tujunga
- Tustin Irvine Ranch
- U. C. L. A.
- Yorba Linda

...back to Home Page.

Western Regional Climate Center,
wrcc@dri.edu

SAN FERNANDO, CALIFORNIA

Period of Record General Climate Summary - Temperature

Station:(047759) SAN FERNANDO

From Year=1927 To Year=1974

	Monthly Averages			Daily Extremes				Monthly Extremes				Max. Temp.		Min. Temp.	
	Max.	Min.	Mean	High	Date	Low	Date	Highest Mean	Year	Lowest Mean	Year	>= 90 F	<= 32 F	<= 32 F	<= 0 F
	F	F	F	F	dd/yyyy or yyyymmdd	F	dd/yyyy or yyyymmdd	F	-	F	-	# Days	# Days	# Days	# Day
January	65.0	43.2	54.1	92	01/1948	26	30/1949	61.0	1961	43.3	1937	0.0	0.0	2.9	0.
February	67.1	43.5	55.3	92	11/1971	26	10/1929	63.1	1954	49.5	1949	0.0	0.0	1.6	0.
March	70.5	44.1	57.3	97	31/1966	28	02/1951	65.6	1934	50.6	1952	0.4	0.0	0.9	0.
April	75.3	46.7	61.0	103	03/1961	30	05/1929	65.8	1959	52.7	1967	2.6	0.0	0.2	0.
May	78.7	49.8	64.3	105	20/1942	32	11/1933	69.7	1943	60.4	1930	4.3	0.0	0.0	0.
June	84.3	52.5	68.3	114	15/1961	36	09/1941	74.2	1957	63.6	1941	9.3	0.0	0.0	0.
July	92.7	56.3	74.5	113	26/1933	40	11/1970	79.8	1931	69.3	1944	21.5	0.0	0.0	0.
August	92.6	56.6	74.6	112	11/1933	41	31/1941	81.4	1967	69.5	1940	21.5	0.0	0.0	0.
September	89.6	54.7	72.1	114	13/1971	39	23/1941	77.6	1963	65.9	1941	15.1	0.0	0.0	0.
October	81.9	51.1	66.5	106	02/1933	32	20/1949	73.3	1965	62.4	1941	7.7	0.0	0.0	0.
November	73.8	47.9	60.9	97	01/1966	29	23/1931	68.0	1956	54.6	1952	1.4	0.0	0.3	0.
December	66.4	45.0	55.7	90	03/1958	26	23/1968	62.5	1929	49.4	1971	0.0	0.0	1.3	0.
Annual	78.2	49.3	63.7	114	19610615	26	19290210	65.8	1958	61.3	1949	84.0	0.0	7.4	0.
Winter	66.2	43.9	55.0	92	19480101	26	19290210	59.4	1961	47.5	1949	0.1	0.0	5.9	0.
Spring	74.8	46.9	60.9	105	19420520	28	19510302	66.1	1934	57.4	1935	7.4	0.0	1.1	0.
Summer	89.9	55.2	72.5	114	19610615	36	19410609	75.6	1957	68.7	1941	52.3	0.0	0.0	0.
Fall	81.8	51.2	66.5	114	19710913	29	19311123	70.4	1958	63.4	1944	24.3	0.0	0.4	0.

Table updated on Apr 5, 2006
For monthly and annual means, thresholds, and sums:
Months with 5 or more missing days are not considered
Years with 1 or more missing months are not considered
Seasons are climatological not calendar seasons

Back to:
State Map | Western U.S. map | Home Page

NOTE:
To print data frame (right side), click on right frame before printing.

1981 - 2010

- Daily Temp. & Precip.
- Daily Tabular data (~23 KB)
- Monthly Tabular data (~1 KB)
- NCDC 1981-2010 Normals (~3 KB)

1971 - 2000

- Daily Temp. & Precip.
- Daily Tabular data (~23 KB)
- Monthly Tabular data (~1 KB)
- NCDC 1971-2000 Normals (~3 KB)

1961 - 1990

- Daily Temp. & Precip.
- Daily Tabular data (~23 KB)
- Monthly Tabular data (~1 KB)
- NCDC 1961-1990 Normals (~3 KB)

Period of Record

- Station Metadata
- Station Metadata Graphics

General Climate Summary Tables
- Temperature
- Precipitation
- Heating Degree Days
- Cooling Degree Days
- Growing Degree Days

Temperature
- Daily Extremes and Averages
- Spring 'Freeze' Probabilities
- Fall 'Freeze' Probabilities
- 'Freeze Free' Probabilities
- Monthly Temperature Listings
  - Average
  - Average Maximum
  - Average Minimum
  - Extreme Maximum(*)
  - Extreme Minimum(*)

Precipitation
- Monthly Average
- Daily Extreme and Average
- Daily Average
- Precipitation Probability by Duration.

SAN FERNANDO, CALIFORNIA

Period of Record General Climate Summary - Precipitation

Station:(047759) SAN FERNANDO

From Year=1927 To Year=1974

	Precipitation											Total Snowfall		
	Mean	High	Year	Low	Year	1 Day Max.		>= 0.01 in.	>= 0.10 in.	>= 0.50 in.	>= 1.00 in.	Mean	High	Year
	in.	in.	-	in.	-	in.	dd/yyyy or yyyymmdd	# Days	# Days	# Days	# Days	in.	in.	-
January	3.53	15.06	1969	0.00	1948	7.55	01/1934	6	4	2	1	0.1	4.5	1949
February	3.37	13.04	1962	0.00	1933	4.45	20/1944	6	4	2	1	0.0	0.0	1931
March	2.34	10.48	1941	0.00	1940	4.50	07/1952	5	4	2	1	0.0	0.0	1933
April	1.38	6.84	1965	0.00	1934	2.95	12/1956	4	3	1	0	0.0	0.0	1930
May	0.24	1.56	1957	0.00	1929	1.05	11/1957	2	1	0	0	0.0	0.0	1929
June	0.07	0.57	1934	0.00	1928	0.50	01/1948	1	0	0	0	0.0	0.0	1928
July	0.02	0.39	1969	0.00	1928	0.39	11/1969	0	0	0	0	0.0	0.0	1928
August	0.03	0.51	1942	0.00	1928	0.51	10/1942	0	0	0	0	0.0	0.0	1928
September	0.10	0.95	1967	0.00	1928	0.44	17/1950	1	0	0	0	0.0	0.0	1930
October	0.41	1.92	1957	0.00	1929	1.52	28/1942	2	1	0	0	0.0	0.0	1929
November	1.79	12.27	1965	0.00	1929	3.70	07/1966	3	2	1	0	0.0	0.0	1930
December	2.86	10.59	1938	0.00	1929	4.31	15/1938	5	4	2	1	0.1	2.0	1931
Annual	16.16	37.87	1941	4.76	1972	7.55	19340101	36	23	10	5	0.2	4.5	1949
Winter	9.77	24.91	1969	1.35	1961	7.55	19340101	17	12	6	3	0.2	4.5	1949
Spring	3.97	15.80	1941	0.02	1934	4.50	19520307	11	7	3	1	0.0	0.0	1933
Summer	0.12	0.59	1934	0.00	1928	0.51	19420810	2	0	0	0	0.0	0.0	1928
Fall	2.30	12.84	1965	0.10	1937	3.70	19661107	6	4	1	0	0.0	0.0	1930

Table updated on Apr 5, 2006
For monthly and annual means, thresholds, and sums:
Months with 5 or more missing days are not considered
Years with 1 or more missing months are not considered
Seasons are climatological not calendar seasons
Winter = Dec., Jan., and Feb. Spring = Mar., Apr., and May
Summer = Jun., Jul., and Aug. Fall = Sep., Oct., and Nov.

Western Regional Climate Center, wrcc@dri.edu

Appendix B

CARB Data

Top 4 Summary: Highest 4 Daily Maximum Hourly Ozone Measurements

at Reseda

iADAM

	2009		2010		2011	
	Date	Measurement	Date	Measurement	Date	Measurement
First High:	Aug 31	0.135	Sep 3	0.122	Aug 25	0.130
Second High:	Sep 2	0.119	Jul 15	0.120	Jul 2	0.129
Third High:	Aug 28	0.117	Aug 25	0.116	Jun 21	0.128
Fourth High:	Jun 28	0.115	Aug 24	0.114	Jul 1	0.119
California:						
# Days Above the Standard:		15		11		17
California Designation Value:		0.13		0.12		0.12
Expected Peak Day Concentration:		0.129		0.126		0.123
National:						
# Days Above the Standard:		*1*		*0*		*3*
Nat'l Standard Design Value:		*0.123*		*0.121*		*0.128*
Year Coverage:		98		96		93

◄ Shift Backward [1 year] Shift Forward ►

Notes:

Hourly ozone measurements and related statistics are available at Reseda between 1978 and 2011. Some years in this range may not be represented.

All concentrations expressed in parts per million.

The national 1-hour ozone standard was revoked in June 2005 and is no longer in effect. Statistics related to the revoked standard are shown in *italics* or *italics*.

yellow exceeds a California ambient air quality standard. *orange* exceeds the revoked 1-hour national ambient air quality standard.

An exceedance of a standard is not necessarily related to a violation of the standard.

Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.

* means there was insufficient data available to determine the value.

Available Pollutants:

8-Hour Ozone | Hourly Ozone | PM2.5 | PM10 | Carbon Monoxide | Nitrogen Dioxide | State Sulfur Dioxide | Hydrogen Sulfide

Top 4 Summary: Highest 4 Daily Maximum 8-Hour Ozone Averages

at Reseda

	2009		2010		2011	
	Date	8-Hr Average	Date	8-Hr Average	Date	8-Hr Average
National:						
First High:	Aug 30	0.100	Jul 10	0.091	Jul 2	0.103
Second High:	Aug 28	0.094	Aug 25	0.089	Jul 1	0.099
Third High:	Sep 27	0.094	Jun 5	0.087	Jun 21	0.095
Fourth High:	Sep 2	0.093	Jul 15	0.086	May 4	0.091
California:						
First High:	Aug 30	0.100	Jul 10	0.092	Jul 2	0.103
Second High:	Sep 27	0.095	Aug 25	0.090	Jul 1	0.099
Third High:	Aug 28	0.094	Jun 5	0.087	Jun 21	0.095
Fourth High:	Sep 2	0.094	Jul 15	0.086	May 4	0.092
National:						
# Days Above the Standard:		19		19		26
Nat'l Standard Design Value:		0.093		0.091		0.090
National Year Coverage:		97		97		93
California:						
# Days Above the Standard:		31		37		35
California Designation Value:		0.105		0.103		0.100
Expected Peak Day Concentration:		0.108		0.106		0.101
California Year Coverage:		97		95		91

◄ Shift Backward [1] Shift Forward ►

Notes:

Eight-hour ozone averages and related statistics are available at Reseda between 1978 and 2011. Some years in this range may not be represented.

All averages expressed in parts per million.

yellow exceeds a California ambient air quality standard. orange exceeds a national ambient air quality standard.

An exceedance of a standard is not necessarily related to a violation of the standard.

Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.

* means there was insufficient data available to determine the value.

Available Pollutants:

8-Hour Ozone | Hourly Ozone | PM2.5 | PM10 | Carbon Monoxide | Nitrogen Dioxide | State Sulfur Dioxide | Hydrogen Sulfide

Top 4 Summary: Highest 4 Daily Maximum Hourly Nitrogen Dioxide Measurements

at Reseda

	2009		2010		2011	
	Date	Measurement	Date	Measurement	Date	Measurement
First High:	Oct 22	0.070	Dec 3	0.075	Dec 29	0.070
Second High:	Oct 17	0.058	Jan 7	0.066	Dec 30	0.067
Third High:	Nov 3	0.056	Sep 27	0.064	Oct 31	0.060
Fourth High:	Sep 25	0.055	Sep 26	0.062	Jan 18	0.056
California:						
# Days Above the Standard:	0		0		0	
Annual Average:	0.017		0.017		0.016	
Year Coverage:	99		99		93	

◄ Shift Backward [1] Shift Forward ►

Notes:

Hourly nitrogen dioxide measurements and related statistics are available at Reseda between 1965 and 2011. Some years in this range may not be represented.

All concentrations expressed in parts per million.

yellow exceeds a California ambient air quality standard. orange exceeds a national ambient air quality standard.

An exceedance of a standard is not necessarily related to a violation of the standard.

Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.

* means there was insufficient data available to determine the value.

Available Pollutants:

8-Hour Ozone | Hourly Ozone | PM2.5 | PM10 | Carbon Monoxide | Nitrogen Dioxide | State Sulfur Dioxide | Hydrogen Sulfide

Top 4 Summary: Highest 4 Daily Maximum 8-Hour Carbon Monoxide Averages

at Reseda

	2009		2010		2011	
	Date	8-Hr Average	Date	8-Hr Average	Date	8-Hr Average
National:						
First High:	Jan 1	2.84	Dec 3	2.60	Nov 29	2.77
Second High:	Dec 25	2.57	Dec 4	2.51	Dec 10	2.58
Third High:	Jan 2	2.54	Dec 25	2.24	Dec 28	2.55
Fourth High:	Jan 8	2.53	Dec 10	2.17	Dec 30	2.40
California:						
First High:	Jan 1	3.31	Dec 2	2.60	Nov 28	2.77
Second High:	Dec 25	2.57	Dec 3	2.51	Dec 9	2.58
Third High:	Jan 2	2.54	Dec 25	2.24	Dec 27	2.55
Fourth High:	Jan 7	2.53	Dec 10	2.17	Dec 29	2.40
National:						
# Days Above the Standard:	0		0			0
California:						
# Days Above the Standard:	0		0			0
Expected Peak Day Concentration:	2.97		2.91			2.91
Year Coverage:	97		99			84

◄ Shift Backward [1] Shift Forward ►

Notes:

Eight-hour carbon monoxide averages and related statistics are available at Reseda between 1965 and 2011. Some years in this range may not be represented.

All averages expressed in parts per million.

yellow exceeds a California ambient air quality standard. orange exceeds a national ambient air quality standard.

An exceedance of a standard is not necessarily related to a violation of the standard.

Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.

* means there was insufficient data available to determine the value.

Available Pollutants:

8-Hour Ozone | Hourly Ozone | PM2.5 | PM10 | Carbon Monoxide | Nitrogen Dioxide | State Sulfur Dioxide | Hydrogen Sulfide

Top 4 Summary: Highest 4 Daily 24-Hour PM10 Averages

at Burbank-W Palm Avenue

	2009		2010		2011	
	Date	24-Hr Average	Date	24-Hr Average	Date	24-Hr Average
National:						
First High:	Oct 27	130.3	Aug 24	51.0	Dec 1	96.7
Second High:	Nov 25	105.5	Jun 1	50.0	Dec 2	64.0
Third High:	Nov 24	91.9	Jul 19	46.0	Nov 30	57.4
Fourth High:	Nov 29	61.9	Jan 14	43.0	Jul 5	48.0
California:						
First High:	Sep 22	76.0	Aug 24	50.0	Oct 24	60.0
Second High:	Jan 1	75.0	Jun 1	49.0	Dec 29	52.0
Third High:	Mar 20	66.0	Jul 19	45.0	Oct 18	46.0
Fourth High:	Aug 11	62.0	Jan 14	42.0	Dec 5	42.0
National:						
Estimated # Days > 24-Hour Std:	*		*		0.0	
Measured # Days > 24-Hour Std:	0		0		0	
3-Yr Avg Est # Days > 24-Hr Std:	*		*		*	
Annual Average:	*25.7*		*27.5*		*25.0*	
3-Year Average:	*		*34*		*24*	
California:						
Estimated # Days > 24-Hour Std:	60.9		*		*	
Measured # Days > 24-Hour Std:	10		0		2	
Annual Average:	38.9		*		*	
3-Year Maximum Annual Average:	39		*		*	
Year Coverage:	0		95		0	

◄ Shift Backward [1] Shift Forward ►

Notes:

Daily PM10 averages and related statistics are available at Burbank-W Palm Avenue between 1988 and 2011. Some years in this range may not be represented.

All averages expressed in micrograms per cubic meter.

The national annual average PM10 standard was revoked in December 2006 and is no longer in effect. Statistics related to the revoked standard are shown in *italics* or *italics*.

yellow exceeds a California ambient air quality standard. orange exceeds a national ambient air quality standard.

An exceedance of a standard is not necessarily related to a violation of the standard.

All values listed above represent midnight-to-midnight 24-hour averages and may be related to an exceptional event.

State and national statistics may differ for the following reasons:

- State statistics are based on California approved samplers, whereas national statistics are based on samplers using federal reference or equivalent methods. State and national statistics may therefore be based on different samplers.
- State statistics for 1998 and later are based on local conditions (except for sites in the South Coast Air Basin, where State statistics for 2002 and later are based on local conditions). National statistics are based on standard conditions.
- State criteria for ensuring that data are sufficiently complete for calculating valid annual averages are more stringent than the national criteria.

Measurements are usually collected every six days. Measured days counts the days that a measurement was greater than the level of the standard; Estimated days mathematically estimates how many days concentrations would have been greater than the level of the standard had each day been monitored.

3-Year statistics represent the listed year and the 2 years before the listed year.

Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.

* means there was insufficient data available to determine the value.

Available Pollutants:

8-Hour Ozone | Hourly Ozone | PM2.5 | PM10 | Carbon Monoxide | Nitrogen Dioxide | State Sulfur Dioxide | Hydrogen Sulfide

Top 4 Summary: Highest 4 Daily 24-Hour PM2.5 Averages

at Reseda

	2009		2010		2011	
	Date	24-Hr Average	Date	24-Hr Average	Date	24-Hr Average
National:						
First High:	Mar 20	39.9	Dec 4	40.7	Oct 24	39.8
Second High:	Dec 27	32.2	Dec 25	33.8	Jan 9	24.0
Third High:	Dec 24	27.2	Oct 14	30.4	Dec 11	23.6
Fourth High:	Jan 7	24.8	Feb 1	22.4	Oct 21	23.2
California:						
First High:	Mar 20	54.4	Oct 15	50.3	Oct 24	52.7
Second High:	Dec 25	46.4	Oct 14	49.3	Oct 20	49.3
Third High:	Dec 26	41.7	Dec 4	45.3	Oct 19	47.9
Fourth High:	Dec 27	34.6	Nov 17	41.4	Sep 28	41.2
National:						
Estimated # Days > 24-Hour Std:	3.1		*		3.3	
Measured # Days > 24-Hour Std:	1		1		1	
24-Hour Standard Design Value:	*		*		*	
24-Hour Standard 98th Percentile:	27.2		*		23.6	
Annual Standard Design Value:	*		*		*	
Annual Average:	11.3		*		10.1	
California:						
Annual Std Designation Value:	12		12		10	
Annual Average:	*		*		10.2	
Year Coverage:	91		82		95	

◄ Shift Backward [1] Shift Forward ►

Notes:

Daily PM2.5 averages and related statistics are available at Reseda between 1999 and 2011. Some years in this range may not be represented.

All averages expressed in micrograms per cubic meter.

yellow exceeds a California ambient air quality standard. orange exceeds a national ambient air quality standard.

An exceedance of a standard is not necessarily related to a violation of the standard.

State statistics are based on California approved samplers, whereas national statistics are based on samplers using federal reference or equivalent methods. State and national statistics may therefore be based on different samplers.

Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.

* means there was insufficient data available to determine the value.

Available Pollutants:

8-Hour Ozone | Hourly Ozone | PM2.5 | PM10 | Carbon Monoxide | Nitrogen Dioxide | State Sulfur Dioxide | Hydrogen Sulfide

Top 4 Summary: Highest 4 Daily Maximum State 24-Hour Sulfur Dioxide Averages

at Burbank-W Palm Avenue

	2009		2010		2011	
	Date	24-Hr Average	Date	24-Hr Average	Date	24-Hr Average
First High:	Aug 6	0.003	Feb 26	0.004	Dec 30	0.002
Second High:	Aug 5	0.003	Jan 5	0.004	Sep 9	0.002
Third High:	Aug 2	0.003	Feb 28	0.004	Dec 9	0.002
Fourth High:	Aug 3	0.002	Jan 4	0.004	Aug 29	0.002
Annual Average:		*		*		*
Year Coverage:		49		83		69

◄ Shift Backward [1] Shift Forward ►

Notes:

Hourly sulfur dioxide measurements and related statistics are available at Burbank-W Palm Avenue between 1963 and 2011. Some years in this range may not be represented.

All averages expressed in parts per million.

yellow exceeds a California ambient air quality standard.

An exceedance of a standard is not necessarily related to a violation of the standard.

Year Coverage indicates the extent to which available monitoring data represent the time of the year when concentrations are expected to be highest. 0 means that data represent none of the high period; 100 means that data represent the entire high period. A high Year Coverage does not mean that there was sufficient data for annual statistics to be considered valid.

* means there was insufficient data available to determine the value.

Available Pollutants:

8-Hour Ozone | Hourly Ozone | PM2.5 | PM10 | Carbon Monoxide | Nitrogen Dioxide | State Sulfur Dioxide | Hydrogen Sulfide

Appendix C

Construction Emission Calculations

PROJECT: SAN FERNANDO WATER RECYCLING PROJECT

Work Schedule

Total footage of pipe (LF)	Pipe lay rate (LF/day)	Total days required to install pipe	Working days per year	Number of years required to install total pipe
109,800	90	1220	251	4.9

Excavation of Soils

Total soil excavated incl. 20% expansion (ft^3)[1]	Soil hauled per day (ft^3/day)	Soil hauled per day (yd^3/day)	Maximum volume allowed in a 10-yd. Dump Truck (yd^3)	Number of loads (loads per day)	Number of 10 yd^3 Dump Trucks used	Round trips per truck
1,647,000	1,350	50.0	8.5	6	3	2

Dump Site Locations

NU-WAY 1270 Arrow HighWay Irwindale Ca. I -10 E 19.0 miles
Vulcan 11520 Sheldon St. Sun Valley Ca. I - 5 N (4.7 miles - 22.3 miles)

Construction Crew		Crew Equipment	
1-Supervisor	2-Operator	2-Pick-up Trk	1-Truck Mounted Crane
1-Sr.W.U.W.	3- H.D.T.O.	1-Gang Trk	1-Back Hoe W/ Carrier
2-W.U.W.	1-Field Engineer	1-5 yd^3 Dump Trk	1-Pipe Trk
2-M.C.H		3-10 yd^3 Dump Trk	

CNG
DIESEL
GAS

Trips per vehicle

Pick-up truck - varies
5 yd^3 dump truck - varies
Gang Trk - 1 trip to and from job
Pipe Truck - 1 trip to & from job
Backhow w/carrier - 1 trip to and from job
Truck mounted crane - 1 trip to and from job
10 $yard^3$ dump trucks - see round trips above

Best Management Practices

Geotextile Fabrics / sandbag on all storm drain catch basins opening
All spoils being transported covered with tarp
Comply with City approved traffic control plans

[1] *assumed a 2.5' wide x 5' deep trench*

San Fernando Valley Water Recycling Project- Summary of Construction Emissions

TOTAL EMISSIONS	Emissions (ppd)					
	ROG	CO	NOX	SOX	PM10	PM2.5
Construction Equipments	5.120	25	34	4.8	2	2
Worker Vehicle	0.143	2.45	0.22	0.00	0.009	0.008
Off-Site Trucks	0.219	1.07	3.46	0.00	0.050	0.046
Water Trucks	0.002	0.011	0.010	0.000	0.0013	0.0012
Excavation					0.004	0.000
Regional Daily Maximum	**5**	**28**	**37**	**5**	**2**	**2**
THRESHOLD	**75**	**550**	**100**	**150**	**150**	**55**
IMPACT?	NO	NO	NO	NO	NO	NO
On-Site Daily Maximum	**5**	**25**	**34**	**5**	**2**	**2**
THRESHOLD /a/	**n/a**	**426**	**103**	**n/a**	**4**	**3**
IMPACT?	n/a	NO	NO	n/a	NO	NO

/a/ The proposed project is assumed to be one acre. The closest residential receptor is approximately 25 meter from the project site.

San Fernando Water Recycling Project - Construction Equipment Emissions

Estimated Equipment Construction Emissions

Equipment Type	Qty	Operating Hrs/WD/ each	Operating Hours per Day	Rog Rate (lbs/hr)	Rog (lbs/day)	CO rate (lbs/hr)	CO (lbs/day)	NOX rate (lbs/hr)	NOX (lbs/day)	SOX rate (lbs/hr)	SOX (lbs/day)	PM rate (lbs/hr)	PM (lbs/day)	PM10 (lbs/day)	PM2.5 (lbs/day)	CO2 Rate (lbs/hr)	CO2 (lbs/day)	CH4 rate (lbs/hr)	CH4 (lbs/day)
Construction Equipment /a/																			
Cement and Mortar Mixers	1	8	8	0.0087	0.07	0.0417	0.33	0.0539	0.43	0.0001	0.00	0.0022	0.02	0.02	0.02	7	58	0.0008	0.01
Cranes	1	8	8	0.1073	0.86	0.4152	3.32	0.8625	6.90	0.0014	0.01	0.0352	0.28	0.28	0.26	129	1029	0.0097	0.08
Backhoe with Carrier	1	8	8	0.0559	0.45	0.3666	2.93	0.3681	2.94	0.0008	0.01	0.0222	0.18	0.18	0.16	67	534	0.0050	0.04
Excavators	1	8	8	0.0916	0.73	0.5184	4.15	0.5858	4.69	0.0013	0.01	0.0289	0.23	0.23	0.21	120	957	0.0083	0.07
Forklift	1	8	8	0.0399	0.32	0.2181	1.74	0.2493	1.99	0.0006	0.00	0.0119	0.09	0.09	0.09	54	435	0.0036	0.03
Generator Sets	1	8	8	0.0527	0.42	0.2821	2.26	0.4052	3.24	0.0007	0.01	0.0216	0.17	0.17	0.16	61	488	0.0048	0.04
Pavers	1	8	8	0.1193	0.95	0.4165	3.33	0.5965	4.77	0.5965	4.77	0.0404	0.32	0.32	0.30	69	552	0.0082	0.07
Paving Equipment	1	8	8	0.0910	0.73	0.4165	3.33	0.5965	4.77	0.0008	0.01	0.0404	0.32	0.32	0.30	69	552	0.0082	0.07
Rollers	1	8	8	0.0736	0.59	0.3913	3.13	0.4866	3.89	0.0008	0.01	0.0322	0.26	0.26	0.24	67	536	0.0066	0.05
Year 2017 Construction Equipment Total Emissions					**5.12**		**24.53**		**33.64**		**4.82**			**1.88**	**1.73**		**5,140.55**		**0.44**

/a/ Construction would take approximately five years to complete (begin in summer of 2017 and conclude in summer 2021). Offroad emission factors for year 2017 would be used for a conservative analysis since older construction equipment would generate more emissions.

San Fernando Valley Water Recycling Project - Fugitive Dust Emissions from Excavation Year 2017

Construction Activity

Fugitive Dust Stockpiling Parameters

Silt Content[c]	Precipitation Days[d]	Mean Wind Speed Percent[e]	TSP Fraction	Area[f] (acres)
6.9	10	0.13	0.5	0.02

Fugitive Dust Material Handling

Aerodynamic Particle Size Multiplier[g]	Mean Wind Speed (mph)[h]	Moisture Content[i]	Dirt Handled (cy/day)[a]	Dirt Handled (lbs./day)[j]
0.35	3.49837	7.9	50	125,000

Dragline Parameters

Drop Height (feet)	Moisture Content[i]	PM_{10} Scaling Factor	$PM_{2.5}$ Scaling Factor
3	7.9%	0.75	0.017

Incremental Increase in Fugitive Dust Emissions from Construction Operations

Equations:

Grading[k]: PM10 Emissions (lb/day) = 0.60 x 0.051 x mean vehicle speed$^{2.0}$ x VMT x (1 - control efficiency)

Storage Piles[l]: PM10 Emissions (lb/day) = 1.7 x (silt content/1.5) x ((365-precipitation days)/235) x wind speed percent/15 x TSP fraction x Area) x (1 - control efficiency)

Material Handling[m]: PM10 Emissions (lb/day) = (0.0032 x aerodynamic particle size multiplier x (wind speed (mph)/5)$^{1.3}$/(moisture content/2)$^{1.4}$ x dirt handled (lb/day)/2,000 (lb/ton) (1 - control efficiency)

Dragline Equation for PM_{10} Emissions[o] (lbs/day) = [((0.0021) x (drop height)$^{0.7}$) / (moisture content)$^{0.3}$] x 0.75 x Dirt Handled x Control Efficiency

Dragline Equation for $PM_{2.5}$ Emissions[o] (lbs/day) = [((0.0021) x (drop height)$^{1.1}$) / (moisture content)$^{0.3}$] x 0.017 x Dirt Handled x Control Efficiency

Description	Control Efficiency %	Unmitigated PM10[n] lb/day	Unmitigated PM2.5 lb/day
Storage Piles	61	0.0000	0.0000
Material Handling	61	0.0000	0.0000
Dragline	61	0.0035	0.0002
Total		**0.004**	**0.000**

Notes:

a) Obtained from client.
b) Caterpillar Performance Handbook, Edition 33, October 2003 Operating Speeds, p 2-3.
c) USEPA, AP-42, July 1998, Table 11.9-3 Typical Values for Corection Factors Applicable to the Predictive Emission Factor Equations
d) Table A9-9-E2, SCAQMD CEQA Air Quality Handbook, 1993
e) Mean wind speed percent - percent of time mean wind speed exceeds 12 mph.
f) Assumed storage piles are 0.02 acres in size
g) USEPA, AP-42, Jan 1995, Section 13.2.4 Aggretate Handling and Storage Piles, p 13.2.4-3 Aerodynamic particle size multiplier for < 10 µm
h) Mean wind speed at the Reseda Wind Monitoring Station.
i) USEPA, Fugitive Dust Background Document and Technical Information Document for Best Available Control Measures, equation 2-13, p 2-28.
j) Assuming 050 cubic yards of dirt handled [(050 cyd x 2,500 lb/cyd)/1 days = 125,000 lb/day]
k) USEPA, AP-42, July 1998, Table 11.9-1, Equation for Site Grading ≤ 10 µm
l) USEPA, AP-42, Jan 1995, Section 13.2.4 Aggretate Handling and Storage Piles, Equation 1
m) USEPA, Fugitive Dust Background Document and Technical Information Document for Best Available Control Measures, Sept 1992, EPA-450/2-92-004, Equation 2-12.
n) Includes watering at least three times a day per Rule 403 (61% control efficiency).
o) Source: USEPA, AP-42, Emission Factor Equations for Uncontrolled Dust Sources at Western Surface Coal Mines, Table 11.9-1, Dragline calculations for PM_{10} and $PM_{2.5}$.

EMFAC2011 RATES (grams per mile)							
Vehicle Type	**ROG**	**CO**	**NOX**	**SOX**	**PM10**	**PM2.5**	**CO2**
Year 2017							
Haul Truck @ 30 MPH	0.1859039	0.904	2.937	0.000	0.042	0.039	522.681
Water Truck @ 5 MPH	0.088049	0.586	0.538	0.000	0.07	0.064	408.872
Worker Vehicle @30 MPH	0.0261625	1.089	0.092	0	0.002	0.002	358.521
Light-Duty Truck @30 MPH	0.3803589	5.867	0.531	0	0.024	0.022	1055.15

Assumptions:

Construction Year	2017-2021
Season	Annual

San Fernando Valley Water Recycling Project- Mobile Emissions

WORKER VEHICLES				Worker Vehicle Emissions (ppd)						
	# of Workers	Total VMT/Day	ROG	CO	NOX	SOX	PM10	PM2.5	CO2
Construction Crew										
Worker Vehicles Emissions	**12**	**319.20**	**0.14**	**2.45**	**0.22**	**0.00**	**0.009**	**0.008**	**496.97**
Cars	*6.0*	159.60	0.01	0.38	0.03	0.00	0.001	0.001	126.04
Trucks	*6.0*	159.60	*0.13*	*2.06*	*0.19*	*0.00*	*0.008*	*0.008*	*370.93*
Total Year 2017 Worker Vehicles Emissions (tons per year)			*0.018*	*0.307*	*0.027*	*0.000*	*0.001*	*0.001*	*62.369*

OFF-SITE TRUCK TRIPS /a	Heavy-duty Truck Emissions									
	Trips per Day	Round Trip Length /b/	VMT/day	ROG	CO	NOX	SOX	PM10	PM2.5	CO2
Haul Truck Trips (pounds per day)	12	45	535	0.219	1.065	3.462	0.000	0.050	0.046	616.165
Year 2017- Haul Truck Trips (tons per year)				*0.0275*	*0.1337*	*0.4345*	*0.0000*	*0.0063*	*0.0058*	*77.3287*

/b/ Obtained from the client, there will be three 10 cubic yards dump trucks that will carry a maximum amount of 8.5 cubic yards of material (total of six loads per day). Each dump trucks would do two loads per day (total of 12 trips per day).
/a/ Dump site is located at 11520 Sheldon Street, Sun Valley, CA, which is approximately 22.3 miles (one-way trip) from project site.

WATER TRUCK EMISSIONS/b/				Heavy-duty Truck Emissions (ppd)						
	# of Water Trucks	Hours of Operation Per Month	VMT/day	ROG	CO	NOX	SOX	PM10	PM2.5	CO2
Year 2017 - Water Truck Emission (pounds per day)	1	40	8.70	0.00	0.01	0.01	0.00	0.0013	0.0012	7.83
Year 2017 - Water Truck Emission (Tons per Year)				0.0002	0.0014	0.0013	0.0000	0.0002	0.0002	0.9828

[b] Water trucks would operate on site two hours each day at a rate of 5 mph (compliance with Rule 403).
The proposed project assumes 23 work days per average month.

Appendix D

GHG Emission Calculations

San Fernando Valley Water Recycling Project -GHG Emissions

TOTAL EMISSIONS		Emissions (tonnes per year)	
		CO2	CH4
Year 2017			
	Construction Equipment	645	0.055
	Worker Vehicle	62.37	0.00
	Off-Site Trucks	77.33	0.00
	Water Trucks	0.98	0.00
Tonnes per year CO2e		785.82	1.16
Total tonnes/year			**786.98**
Year 2017 CO2e (tonnes per year)			**786.98**

Appendix E

EMFAC 2011 Output Files

EMFAC 2011
2017 Estimated Annual Emission Rates
EMFAC 2011 Vehicle Categories
Los Angeles COUNTY
South Coast AIR BASIN
South Coast AQMD

Area	CalYr	Season	Veh	Fuel	MdlYr	Speed (Miles/hr	VMT (Miles/day)	ROG_RUNE (gms/mile)	TOG_RUI (gms/mil	CO_RUN (gms/mil	NOX_RU (gms/mil	CO2_RUI (gms/mil	CO2_RUI (gms/mil	PM10_RUI (gms/mile)	PM2_5_RU (gms/mile)	SOX_RUNEX (gms/mile)
Los Angeles (SC)	2017	Annual	LDA	GAS	AllMYr	5	278561.9	0.131914	0.202	1.9375	0.1523	1100.9	871.72	0.010671	0.009849	0
Los Angeles (SC)	2017	Annual	LDA	DSL	AllMYr	5	956.1318	0.091326	0.104	0.6064	0.5873	476.66	365.01	0.066963	0.061606	0
Los Angeles (SC)	2017	Annual	LDA	GAS	AllMYr	30	2.39E+07	0.026163	0.0387	1.0892	0.0918	358.52	283.9	0.001918	0.001766	0
Los Angeles (SC)	2017	Annual	LDA	DSL	AllMYr	30	81938.86	0.036217	0.0412	0.1913	0.3674	295.57	231.92	0.026592	0.024465	0
Los Angeles (SC)	2017	Annual	LDT1	GAS	AllMYr	5	30524.22	0.380359	0.52	5.8669	0.5314	1268.2	1055.2	0.024121	0.022297	0
Los Angeles (SC)	2017	Annual	LDT1	DSL	AllMYr	5	44.70869	0.18725	0.2132	1.1146	0.8519	460.73	354.12	0.154354	0.142005	0
Los Angeles (SC)	2017	Annual	LDT1	GAS	AllMYr	30	2615874	0.080641	0.1093	3.0608	0.2836	413.03	343.64	0.004772	0.004406	0
Los Angeles (SC)	2017	Annual	LDT1	DSL	AllMYr	30	3831.459	0.074628	0.085	0.3259	0.517	311.27	249.21	0.06161	0.056682	0
Los Angeles (SC)	2017	Annual	LDT2	GAS	AllMYr	5	93499.71	0.186169	0.2858	2.771	0.3024	1499.3	1268.7	0.011573	0.01069	0
Los Angeles (SC)	2017	Annual	LDT2	DSL	AllMYr	5	45.19461	0.103423	0.1177	0.7398	0.7479	466.16	373.22	0.078036	0.071793	0
Los Angeles (SC)	2017	Annual	LDT2	GAS	AllMYr	30	8012766	0.036136	0.0542	1.5995	0.1724	488.28	413.17	0.002066	0.001905	0
Los Angeles (SC)	2017	Annual	LDT2	DSL	AllMYr	30	3873.101	0.041047	0.0467	0.2279	0.4607	300.67	246.89	0.03105	0.028566	0
Los Angeles (SC)	2017	Annual	LHD1	GAS	AllMYr	5	14528.18	0.620673	0.7307	7.3329	0.3702	2513.5	2387.8	0.00785	0.007246	0
Los Angeles (SC)	2017	Annual	LHD1	DSL	AllMYr	5	1948.083	0.464509	0.5288	3.364	5.1326	522.68	496.55	0.105746	0.097286	0
Los Angeles (SC)	2017	Annual	LHD1	GAS	AllMYr	30	961136.2	0.127016	0.1508	1.8034	0.4578	619.43	588.46	0.001624	0.001499	0
Los Angeles (SC)	2017	Annual	LHD1	DSL	AllMYr	30	165774.8	0.185904	0.2116	0.9036	2.9369	522.68	496.55	0.042321	0.038935	0
Los Angeles (SC)	2017	Annual	LHD2	GAS	AllMYr	5	1640.922	0.407014	0.4971	5.3825	0.3244	2513.5	2387.8	0.006558	0.006037	0
Los Angeles (SC)	2017	Annual	LHD2	DSL	AllMYr	5	744.0679	0.440346	0.5013	3.2296	4.8853	523.9	497.7	0.10519	0.096775	0
Los Angeles (SC)	2017	Annual	LHD2	GAS	AllMYr	30	108558	0.083245	0.1027	1.3248	0.401	619.43	588.46	0.001357	0.001249	0
Los Angeles (SC)	2017	Annual	LHD2	DSL	AllMYr	30	63317.49	0.176234	0.2006	0.8674	2.7954	523.9	497.7	0.042099	0.038731	0
Los Angeles (SC)	2017	Annual	MCY	GAS	AllMYr	5	1934.334	4.716036	5.1949	25.501	1.1698	260.28	247.26	8.32E-04	6.90E-04	0
Los Angeles (SC)	2017	Annual	MCY	GAS	AllMYr	30	165769.1	2.061991	2.2682	16.261	1.1086	145.19	137.93	3.77E-04	3.09E-04	0
Los Angeles (SC)	2017	Annual	MDV	GAS	AllMYr	5	65613.15	0.35415	0.5099	4.4883	0.52	1907.4	1670.4	0.013276	0.012251	0
Los Angeles (SC)	2017	Annual	MDV	DSL	AllMYr	5	75.27808	0.088049	0.1002	0.5855	0.5375	481.67	408.87	0.069934	0.064339	0
Los Angeles (SC)	2017	Annual	MDV	GAS	AllMYr	30	5622935	0.068361	0.0976	2.4894	0.2946	621.2	544	0.002425	0.002233	0
Los Angeles (SC)	2017	Annual	MDV	DSL	AllMYr	30	6451.203	0.034864	0.0397	0.1893	0.3426	294.58	252.74	0.027757	0.025537	0

Appendix F

SCAQMD Rule 403

(Adopted May 7, 1976) (Amended November 6, 1992)
(Amended July 9, 1993) (Amended February 14, 1997)
(Amended December 11, 1998)(Amended April 2, 2004)
(Amended June 3, 2005)

RULE 403. FUGITIVE DUST

(a) Purpose

The purpose of this Rule is to reduce the amount of particulate matter entrained in the ambient air as a result of anthropogenic (man-made) fugitive dust sources by requiring actions to prevent, reduce or mitigate fugitive dust emissions.

(b) Applicability

The provisions of this Rule shall apply to any activity or man-made condition capable of generating fugitive dust.

(c) Definitions

(1) ACTIVE OPERATIONS means any source capable of generating fugitive dust, including, but not limited to, earth-moving activities, construction/demolition activities, disturbed surface area, or heavy- and light-duty vehicular movement.

(2) AGGREGATE-RELATED PLANTS are defined as facilities that produce and / or mix sand and gravel and crushed stone.

(3) AGRICULTURAL HANDBOOK means the region-specific guidance document that has been approved by the Governing Board or hereafter approved by the Executive Officer and the U.S. EPA. For the South Coast Air Basin, the Board-approved region-specific guidance document is the Rule 403 Agricultural Handbook dated December 1998. For the Coachella Valley, the Board-approved region-specific guidance document is the Rule 403 Coachella Valley Agricultural Handbook dated April 2, 2004.

(4) ANEMOMETERS are devices used to measure wind speed and direction in accordance with the performance standards, and maintenance and calibration criteria as contained in the most recent Rule 403 Implementation Handbook.

(5) BEST AVAILABLE CONTROL MEASURES means fugitive dust control actions that are set forth in Table 1 of this Rule.

(6) BULK MATERIAL is sand, gravel, soil, aggregate material less than two inches in length or diameter, and other organic or inorganic particulate matter.

(7) CEMENT MANUFACTURING FACILITY is any facility that has a cement kiln at the facility.

(8) CHEMICAL STABILIZERS are any non-toxic chemical dust suppressant which must not be used if prohibited for use by the Regional Water Quality Control Boards, the California Air Resources Board, the U.S. Environmental Protection Agency (U.S. EPA), or any applicable law, rule or regulation. The chemical stabilizers shall meet any specifications, criteria, or tests required by any federal, state, or local water agency. Unless otherwise indicated, the use of a non-toxic chemical stabilizer shall be of sufficient concentration and application frequency to maintain a stabilized surface.

(9) COMMERCIAL POULTRY RANCH means any building, structure, enclosure, or premises where more than 100 fowl are kept or maintained for the primary purpose of producing eggs or meat for sale or other distribution.

(10) CONFINED ANIMAL FACILITY means a source or group of sources of air pollution at an agricultural source for the raising of 3,360 or more fowl or 50 or more animals, including but not limited to, any structure, building, installation, farm, corral, coop, feed storage area, milking parlor, or system for the collection, storage, or distribution of solid and liquid manure; if domesticated animals, including horses, sheep, goats, swine, beef cattle, rabbits, chickens, turkeys, or ducks are corralled, penned, or otherwise caused to remain in restricted areas for commercial agricultural purposes and feeding is by means other than grazing.

(11) CONSTRUCTION/DEMOLITION ACTIVITIES means any on-site mechanical activities conducted in preparation of, or related to, the building, alteration, rehabilitation, demolition or improvement of property, including, but not limited to the following activities: grading, excavation, loading, crushing, cutting, planing, shaping or ground breaking.

(12) CONTRACTOR means any person who has a contractual arrangement to conduct an active operation for another person.

(13) DAIRY FARM is an operation on a property, or set of properties that are contiguous or separated only by a public right-of-way, that raises cows or

produces milk from cows for the purpose of making a profit or for a livelihood. Heifer and calf farms are dairy farms.

(14) DISTURBED SURFACE AREA means a portion of the earth's surface which has been physically moved, uncovered, destabilized, or otherwise modified from its undisturbed natural soil condition, thereby increasing the potential for emission of fugitive dust. This definition excludes those areas which have:

(A) been restored to a natural state, such that the vegetative ground cover and soil characteristics are similar to adjacent or nearby natural conditions;

(B) been paved or otherwise covered by a permanent structure; or

(C) sustained a vegetative ground cover of at least 70 percent of the native cover for a particular area for at least 30 days.

(15) DUST SUPPRESSANTS are water, hygroscopic materials, or non-toxic chemical stabilizers used as a treatment material to reduce fugitive dust emissions.

(16) EARTH-MOVING ACTIVITIES means the use of any equipment for any activity where soil is being moved or uncovered, and shall include, but not be limited to the following: grading, earth cutting and filling operations, loading or unloading of dirt or bulk materials, adding to or removing from open storage piles of bulk materials, landfill operations, weed abatement through disking, and soil mulching.

(17) DUST CONTROL SUPERVISOR means a person with the authority to expeditiously employ sufficient dust mitigation measures to ensure compliance with all Rule 403 requirements at an active operation.

(18) FUGITIVE DUST means any solid particulate matter that becomes airborne, other than that emitted from an exhaust stack, directly or indirectly as a result of the activities of any person.

(19) HIGH WIND CONDITIONS means that instantaneous wind speeds exceed 25 miles per hour.

(20) INACTIVE DISTURBED SURFACE AREA means any disturbed surface area upon which active operations have not occurred or are not expected to occur for a period of 20 consecutive days.

(21) LARGE OPERATIONS means any active operations on property which contains 50 or more acres of disturbed surface area; or any earth-moving operation with a daily earth-moving or throughput volume of 3,850 cubic

meters (5,000 cubic yards) or more three times during the most recent 365-day period.

(22) OPEN STORAGE PILE is any accumulation of bulk material, which is not fully enclosed, covered or chemically stabilized, and which attains a height of three feet or more and a total surface area of 150 or more square feet.

(23) PARTICULATE MATTER means any material, except uncombined water, which exists in a finely divided form as a liquid or solid at standard conditions.

(24) PAVED ROAD means a public or private improved street, highway, alley, public way, or easement that is covered by typical roadway materials, but excluding access roadways that connect a facility with a public paved roadway and are not open to through traffic. Public paved roads are those open to public access and that are owned by any federal, state, county, municipal or any other governmental or quasi-governmental agencies. Private paved roads are any paved roads not defined as public.

(25) PM_{10} means particulate matter with an aerodynamic diameter smaller than or equal to 10 microns as measured by the applicable State and Federal reference test methods.

(26) PROPERTY LINE means the boundaries of an area in which either a person causing the emission or a person allowing the emission has the legal use or possession of the property. Where such property is divided into one or more sub-tenancies, the property line(s) shall refer to the boundaries dividing the areas of all sub-tenancies.

(27) RULE 403 IMPLEMENTATION HANDBOOK means a guidance document that has been approved by the Governing Board on April 2, 2004 or hereafter approved by the Executive Officer and the U.S. EPA.

(28) SERVICE ROADS are paved or unpaved roads that are used by one or more public agencies for inspection or maintenance of infrastructure and which are not typically used for construction-related activity.

(29) SIMULTANEOUS SAMPLING means the operation of two PM_{10} samplers in such a manner that one sampler is started within five minutes of the other, and each sampler is operated for a consecutive period which must be not less than 290 minutes and not more than 310 minutes.

(30) SOUTH COAST AIR BASIN means the non-desert portions of Los Angeles, Riverside, and San Bernardino counties and all of Orange

County as defined in California Code of Regulations, Title 17, Section 60104. The area is bounded on the west by the Pacific Ocean, on the north and east by the San Gabriel, San Bernardino, and San Jacinto Mountains, and on the south by the San Diego county line.

(31) STABILIZED SURFACE means any previously disturbed surface area or open storage pile which, through the application of dust suppressants, shows visual or other evidence of surface crusting and is resistant to wind-driven fugitive dust and is demonstrated to be stabilized. Stabilization can be demonstrated by one or more of the applicable test methods contained in the Rule 403 Implementation Handbook.

(32) TRACK-OUT means any bulk material that adheres to and agglomerates on the exterior surface of motor vehicles, haul trucks, and equipment (including tires) that have been released onto a paved road and can be removed by a vacuum sweeper or a broom sweeper under normal operating conditions.

(33) TYPICAL ROADWAY MATERIALS means concrete, asphaltic concrete, recycled asphalt, asphalt, or any other material of equivalent performance as determined by the Executive Officer, and the U.S. EPA.

(34) UNPAVED ROADS means any unsealed or unpaved roads, equipment paths, or travel ways that are not covered by typical roadway materials. Public unpaved roads are any unpaved roadway owned by federal, state, county, municipal or other governmental or quasi-governmental agencies. Private unpaved roads are all other unpaved roadways not defined as public.

(35) VISIBLE ROADWAY DUST means any sand, soil, dirt, or other solid particulate matter which is visible upon paved road surfaces and which can be removed by a vacuum sweeper or a broom sweeper under normal operating conditions.

(36) WIND-DRIVEN FUGITIVE DUST means visible emissions from any disturbed surface area which is generated by wind action alone.

(37) WIND GUST is the maximum instantaneous wind speed as measured by an anemometer.

(d) Requirements

(1) No person shall cause or allow the emissions of fugitive dust from any active operation, open storage pile, or disturbed surface area such that:

(A) the dust remains visible in the atmosphere beyond the property line of the emission source; or

(B) the dust emission exceeds 20 percent opacity (as determined by the appropriate test method included in the Rule 403 Implementation Handbook), if the dust emission is the result of movement of a motorized vehicle.

(2) No person shall conduct active operations without utilizing the applicable best available control measures included in Table 1 of this Rule to minimize fugitive dust emissions from each fugitive dust source type within the active operation.

(3) No person shall cause or allow PM_{10} levels to exceed 50 micrograms per cubic meter when determined, by simultaneous sampling, as the difference between upwind and downwind samples collected on high-volume particulate matter samplers or other U.S. EPA-approved equivalent method for PM_{10} monitoring. If sampling is conducted, samplers shall be:

(A) Operated, maintained, and calibrated in accordance with 40 Code of Federal Regulations (CFR), Part 50, Appendix J, or appropriate U.S. EPA-published documents for U.S. EPA-approved equivalent method(s) for PM_{10}.

(B) Reasonably placed upwind and downwind of key activity areas and as close to the property line as feasible, such that other sources of fugitive dust between the sampler and the property line are minimized.

(4) No person shall allow track-out to extend 25 feet or more in cumulative length from the point of origin from an active operation. Notwithstanding the preceding, all track-out from an active operation shall be removed at the conclusion of each workday or evening shift.

(5) No person shall conduct an active operation with a disturbed surface area of five or more acres, or with a daily import or export of 100 cubic yards or more of bulk material without utilizing at least one of the measures listed in subparagraphs (d)(5)(A) through (d)(5)(E) at each vehicle egress from the site to a paved public road.

(A) Install a pad consisting of washed gravel (minimum-size: one inch) maintained in a clean condition to a depth of at least six inches and extending at least 30 feet wide and at least 50 feet long.

(B) Pave the surface extending at least 100 feet and at least 20 feet wide.

(C) Utilize a wheel shaker/wheel spreading device consisting of raised dividers (rails, pipe, or grates) at least 24 feet long and 10 feet wide to remove bulk material from tires and vehicle undercarriages before vehicles exit the site.

(D) Install and utilize a wheel washing system to remove bulk material from tires and vehicle undercarriages before vehicles exit the site.

(E) Any other control measures approved by the Executive Officer and the U.S. EPA as equivalent to the actions specified in subparagraphs (d)(5)(A) through (d)(5)(D).

(6) Beginning January 1, 2006, any person who operates or authorizes the operation of a confined animal facility subject to this Rule shall implement the applicable conservation management practices specified in Table 4 of this Rule.

(e) Additional Requirements for Large Operations

(1) Any person who conducts or authorizes the conducting of a large operation subject to this Rule shall implement the applicable actions specified in Table 2 of this Rule at all times and shall implement the applicable actions specified in Table 3 of this Rule when the applicable performance standards can not be met through use of Table 2 actions; and shall:

(A) submit a fully executed Large Operation Notification (Form 403 N) to the Executive Officer within 7 days of qualifying as a large operation;

(B) include, as part of the notification, the name(s), address(es), and phone number(s) of the person(s) responsible for the submittal, and a description of the operation(s), including a map depicting the location of the site;

(C) maintain daily records to document the specific dust control actions taken, maintain such records for a period of not less than three years; and make such records available to the Executive Officer upon request;

(D) install and maintain project signage with project contact signage that meets the minimum standards of the Rule 403 Implementation Handbook, prior to initiating any earthmoving activities;

(E) identify a dust control supervisor that:

(i) is employed by or contracted with the property owner or developer;

(ii) is on the site or available on-site within 30 minutes during working hours;

(iii) has the authority to expeditiously employ sufficient dust mitigation measures to ensure compliance with all Rule requirements;

(iv) has completed the AQMD Fugitive Dust Control Class and has been issued a valid Certificate of Completion for the class; and

(F) notify the Executive Officer in writing within 30 days after the site no longer qualifies as a large operation as defined by paragraph (c)(18).

(2) Any Large Operation Notification submitted to the Executive Officer or AQMD-approved dust control plan shall be valid for a period of one year from the date of written acceptance by the Executive Officer. Any Large Operation Notification accepted pursuant to paragraph (e)(1), excluding those submitted by aggregate-related plants and cement manufacturing facilities must be resubmitted annually by the person who conducts or authorizes the conducting of a large operation, at least 30 days prior to the expiration date, or the submittal shall no longer be valid as of the expiration date. If all fugitive dust sources and corresponding control measures or special circumstances remain identical to those identified in the previously accepted submittal or in an AQMD-approved dust control plan, the resubmittal may be a simple statement of no-change (Form 403NC).

(f) Compliance Schedule

The newly amended provisions of this Rule shall become effective upon adoption. Pursuant to subdivision (e), any existing site that qualifies as a large operation will have 60 days from the date of Rule adoption to comply with the notification and recordkeeping requirements for large operations. Any Large Operation

Notification or AQMD-approved dust control plan which has been accepted prior to the date of adoption of these amendments shall remain in effect and the Large Operation Notification or AQMD-approved dust control plan annual resubmittal date shall be one year from adoption of this Rule amendment.

(g) Exemptions

(1) The provisions of this Rule shall not apply to:

(A) Dairy farms.

(B) Confined animal facilities provided that the combined disturbed surface area within one continuous property line is one acre or less.

(C) Agricultural vegetative crop operations provided that the combined disturbed surface area within one continuous property line and not separated by a paved public road is 10 acres or less.

(D) Agricultural vegetative crop operations within the South Coast Air Basin, whose combined disturbed surface area includes more than 10 acres provided that the person responsible for such operations:

(i) voluntarily implements the conservation management practices contained in the Rule 403 Agricultural Handbook;

(ii) completes and maintains the self-monitoring form documenting sufficient conservation management practices, as described in the Rule 403 Agricultural Handbook; and

(iii) makes the completed self-monitoring form available to the Executive Officer upon request.

(E) Agricultural vegetative crop operations outside the South Coast Air Basin whose combined disturbed surface area includes more than 10 acres provided that the person responsible for such operations:

(i) voluntarily implements the conservation management practices contained in the Rule 403 Coachella Valley Agricultural Handbook; and

(ii) completes and maintains the self-monitoring form documenting sufficient conservation management practices, as described in the Rule 403 Coachella Valley Agricultural Handbook; and

(iii) makes the completed self-monitoring form available to the Executive Officer upon request.

(F) Active operations conducted during emergency life-threatening situations, or in conjunction with any officially declared disaster or state of emergency.

(G) Active operations conducted by essential service utilities to provide electricity, natural gas, telephone, water and sewer during periods of service outages and emergency disruptions.

(H) Any contractor subsequent to the time the contract ends, provided that such contractor implemented the required control measures during the contractual period.

(I) Any grading contractor, for a phase of active operations, subsequent to the contractual completion of that phase of earth-moving activities, provided that the required control measures have been implemented during the entire phase of earth-moving activities, through and including five days after the final grading inspection.

(J) Weed abatement operations ordered by a county agricultural commissioner or any state, county, or municipal fire department, provided that:

(i) mowing, cutting or other similar process is used which maintains weed stubble at least three inches above the soil; and

(ii) any discing or similar operation which cuts into and disturbs the soil, where watering is used prior to initiation of these activities, and a determination is made by the agency issuing the weed abatement order that, due to fire hazard conditions, rocks, or other physical obstructions, it is not practical to meet the conditions specified in clause (g)(1)(H)(i). The provisions this clause shall not exempt the owner of any property from stabilizing, in accordance with paragraph (d)(2), disturbed surface areas which have been created as a result of the weed abatement actions.

(K) sandblasting operations.

(2) The provisions of paragraphs (d)(1) and (d)(3) shall not apply:

(A) When wind gusts exceed 25 miles per hour, provided that:

(i) The required Table 3 contingency measures in this Rule are implemented for each applicable fugitive dust source type, and;

(ii) records are maintained in accordance with subparagraph (e)(1)(C).

(B) To unpaved roads, provided such roads:

(i) are used solely for the maintenance of wind-generating equipment; or

(ii) are unpaved public alleys as defined in Rule 1186; or

(iii) are service roads that meet all of the following criteria:

(a) are less than 50 feet in width at all points along the road;

(b) are within 25 feet of the property line; and

(c) have a traffic volume less than 20 vehicle-trips per day.

(C) To any active operation, open storage pile, or disturbed surface area for which necessary fugitive dust preventive or mitigative actions are in conflict with the federal Endangered Species Act, as determined in writing by the State or federal agency responsible for making such determinations.

(3) The provisions of (d)(2) shall not apply to any aggregate-related plant or cement manufacturing facility that implements the applicable actions specified in Table 2 of this Rule at all times and shall implement the applicable actions specified in Table 3 of this Rule when the applicable performance standards of paragraphs (d)(1) and (d)(3) can not be met through use of Table 2 actions.

(4) The provisions of paragraphs (d)(1), (d)(2), and (d)(3) shall not apply to:

(A) Blasting operations which have been permitted by the California Division of Industrial Safety; and

(B) Motion picture, television, and video production activities when dust emissions are required for visual effects. In order to obtain this exemption, the Executive Officer must receive notification in writing at least 72 hours in advance of any such activity and no nuisance results from such activity.

(5) The provisions of paragraph (d)(3) shall not apply if the dust control actions, as specified in Table 2, are implemented on a routine basis for

each applicable fugitive dust source type. To qualify for this exemption, a person must maintain records in accordance with subparagraph (e)(1)(C).

(6) The provisions of paragraph (d)(4) shall not apply to earth coverings of public paved roadways where such coverings are approved by a local government agency for the protection of the roadway, and where such coverings are used as roadway crossings for haul vehicles provided that such roadway is closed to through traffic and visible roadway dust is removed within one day following the cessation of activities.

(7) The provisions of subdivision (e) shall not apply to:

(A) officially-designated public parks and recreational areas, including national parks, national monuments, national forests, state parks, state recreational areas, and county regional parks.

(B) any large operation which is required to submit a dust control plan to any city or county government which has adopted a District-approved dust control ordinance.

(C) any large operation subject to Rule 1158, which has an approved dust control plan pursuant to Rule 1158, provided that all sources of fugitive dust are included in the Rule 1158 plan.

(8) The provisions of subparagraph (e)(1)(A) through (e)(1)(C) shall not apply to any large operation with an AQMD-approved fugitive dust control plan provided that there is no change to the sources and controls as identified in the AQMD-approved fugitive dust control plan.

(h) Fees

Any person conducting active operations for which the Executive Officer conducts upwind/downwind monitoring for PM_{10} pursuant to paragraph (d)(3) shall be assessed applicable Ambient Air Analysis Fees pursuant to Rule 304.1. Applicable fees shall be waived for any facility which is exempted from paragraph (d)(3) or meets the requirements of paragraph (d)(3).

TABLE 1
BEST AVAILABLE CONTROL MEASURES
(Applicable to All Construction Activity Sources)

Source Category	Control Measure	Guidance
Backfilling	01-1 Stabilize backfill material when not actively handling; and 01-2 Stabilize backfill material during handling; and 01-3 Stabilize soil at completion of activity.	✓ Mix backfill soil with water prior to moving ✓ Dedicate water truck or high capacity hose to backfilling equipment ✓ Empty loader bucket slowly so that no dust plumes are generated ✓ Minimize drop height from loader bucket
Clearing and grubbing	02-1 Maintain stability of soil through pre-watering of site prior to clearing and grubbing; and 02-2 Stabilize soil during clearing and grubbing activities; and 02-3 Stabilize soil immediately after clearing and grubbing activities.	✓ Maintain live perennial vegetation where possible ✓ Apply water in sufficient quantity to prevent generation of dust plumes
Clearing forms	03-1 Use water spray to clear forms; or 03-2 Use sweeping and water spray to clear forms; or 03-3 Use vacuum system to clear forms.	✓ Use of high pressure air to clear forms may cause exceedance of Rule requirements
Crushing	04-1 Stabilize surface soils prior to operation of support equipment; and 04-2 Stabilize material after crushing.	✓ Follow permit conditions for crushing equipment ✓ Pre-water material prior to loading into crusher ✓ Monitor crusher emissions opacity ✓ Apply water to crushed material to prevent dust plumes

TABLE 1
BEST AVAILABLE CONTROL MEASURES
(Applicable to All Construction Activity Sources)

Source Category	Control Measure	Guidance
Cut and fill	05-1 Pre-water soils prior to cut and fill activities; and 05-2 Stabilize soil during and after cut and fill activities.	✓ For large sites, pre-water with sprinklers or water trucks and allow time for penetration ✓ Use water trucks/pulls to water soils to depth of cut prior to subsequent cuts
Demolition – mechanical/manual	06-1 Stabilize wind erodible surfaces to reduce dust; and 06-2 Stabilize surface soil where support equipment and vehicles will operate; and 06-3 Stabilize loose soil and demolition debris; and 06-4 Comply with AQMD Rule 1403.	✓ Apply water in sufficient quantities to prevent the generation of visible dust plumes
Disturbed soil	07-1 Stabilize disturbed soil throughout the construction site; and 07-2 Stabilize disturbed soil between structures	✓ Limit vehicular traffic and disturbances on soils where possible ✓ If interior block walls are planned, install as early as possible ✓ Apply water or a stabilizing agent in sufficient quantities to prevent the generation of visible dust plumes
Earth-moving activities	08-1 Pre-apply water to depth of proposed cuts; and 08-2 Re-apply water as necessary to maintain soils in a damp condition and to ensure that visible emissions do not exceed 100 feet in any direction; and 08-3 Stabilize soils once earth-moving activities are complete.	✓ Grade each project phase separately, timed to coincide with construction phase ✓ Upwind fencing can prevent material movement on site ✓ Apply water or a stabilizing agent in sufficient quantities to prevent the generation of visible dust plumes

TABLE 1
BEST AVAILABLE CONTROL MEASURES
(Applicable to All Construction Activity Sources)

Source Category	Control Measure	Guidance
Importing/exporting of bulk materials	09-1 Stabilize material while loading to reduce fugitive dust emissions; and 09-2 Maintain at least six inches of freeboard on haul vehicles; and 09-3 Stabilize material while transporting to reduce fugitive dust emissions; and 09-4 Stabilize material while unloading to reduce fugitive dust emissions; and 09-5 Comply with Vehicle Code Section 23114.	✓ Use tarps or other suitable enclosures on haul trucks ✓ Check belly-dump truck seals regularly and remove any trapped rocks to prevent spillage ✓ Comply with track-out prevention/mitigation requirements ✓ Provide water while loading and unloading to reduce visible dust plumes
Landscaping	10-1 Stabilize soils, materials, slopes	✓ Apply water to materials to stabilize ✓ Maintain materials in a crusted condition ✓ Maintain effective cover over materials ✓ Stabilize sloping surfaces using soil binders until vegetation or ground cover can effectively stabilize the slopes ✓ Hydroseed prior to rain season
Road shoulder maintenance	11-1 Apply water to unpaved shoulders prior to clearing; and 11-2 Apply chemical dust suppressants and/or washed gravel to maintain a stabilized surface after completing road shoulder maintenance.	✓ Installation of curbing and/or paving of road shoulders can reduce recurring maintenance costs ✓ Use of chemical dust suppressants can inhibit vegetation growth and reduce future road shoulder maintenance costs

TABLE 1
BEST AVAILABLE CONTROL MEASURES
(Applicable to All Construction Activity Sources)

Source Category	Control Measure	Guidance
Screening	12-1 Pre-water material prior to screening; and 12-2 Limit fugitive dust emissions to opacity and plume length standards; and 12-3 Stabilize material immediately after screening.	✓ Dedicate water truck or high capacity hose to screening operation ✓ Drop material through the screen slowly and minimize drop height ✓ Install wind barrier with a porosity of no more than 50% upwind of screen to the height of the drop point
Staging areas	13-1 Stabilize staging areas during use; and 13-2 Stabilize staging area soils at project completion.	✓ Limit size of staging area ✓ Limit vehicle speeds to 15 miles per hour ✓ Limit number and size of staging area entrances/exists
Stockpiles/ Bulk Material Handling	14-1 Stabilize stockpiled materials. 14-2 Stockpiles within 100 yards of off-site occupied buildings must not be greater than eight feet in height; or must have a road bladed to the top to allow water truck access or must have an operational water irrigation system that is capable of complete stockpile coverage.	✓ Add or remove material from the downwind portion of the storage pile ✓ Maintain storage piles to avoid steep sides or faces

TABLE 1
BEST AVAILABLE CONTROL MEASURES
(Applicable to All Construction Activity Sources)

Source Category	Control Measure	Guidance
Traffic areas for construction activities	15-1 Stabilize all off-road traffic and parking areas; and 15-2 Stabilize all haul routes; and 15-3 Direct construction traffic over established haul routes.	✓ Apply gravel/paving to all haul routes as soon as possible to all future roadway areas ✓ Barriers can be used to ensure vehicles are only used on established parking areas/haul routes
Trenching	16-1 Stabilize surface soils where trencher or excavator and support equipment will operate; and 16-2 Stabilize soils at the completion of trenching activities.	✓ Pre-watering of soils prior to trenching is an effective preventive measure. For deep trenching activities, pre-trench to 18 inches soak soils via the pre-trench and resuming trenching ✓ Washing mud and soils from equipment at the conclusion of trenching activities can prevent crusting and drying of soil on equipment
Truck loading	17-1 Pre-water material prior to loading; and 17-2 Ensure that freeboard exceeds six inches (CVC 23114)	✓ Empty loader bucket such that no visible dust plumes are created ✓ Ensure that the loader bucket is close to the truck to minimize drop height while loading
Turf Overseeding	18-1 Apply sufficient water immediately prior to conducting turf vacuuming activities to meet opacity and plume length standards; and 18-2 Cover haul vehicles prior to exiting the site.	✓ Haul waste material immediately off-site

TABLE 1
BEST AVAILABLE CONTROL MEASURES
(Applicable to All Construction Activity Sources)

Source Category	Control Measure		Guidance
Unpaved roads/parking lots	19-1	Stabilize soils to meet the applicable performance standards; and	✓ Restricting vehicular access to established unpaved travel paths and parking lots can reduce stabilization requirements
	19-2	Limit vehicular travel to established unpaved roads (haul routes) and unpaved parking lots.	
Vacant land	20-1	In instances where vacant lots are 0.10 acre or larger and have a cumulative area of 500 square feet or more that are driven over and/or used by motor vehicles and/or off-road vehicles, prevent motor vehicle and/or off-road vehicle trespassing, parking and/or access by installing barriers, curbs, fences, gates, posts, signs, shrubs, trees or other effective control measures.	

Table 2
DUST CONTROL MEASURES FOR LARGE OPERATIONS

FUGITIVE DUST SOURCE CATEGORY		CONTROL ACTIONS
Earth-moving (except construction cutting and filling areas, and mining operations)	(1a)	Maintain soil moisture content at a minimum of 12 percent, as determined by ASTM method D-2216, or other equivalent method approved by the Executive Officer, the California Air Resources Board, and the U.S. EPA. Two soil moisture evaluations must be conducted during the first three hours of active operations during a calendar day, and two such evaluations each subsequent four-hour period of active operations; OR
	(1a-1)	For any earth-moving which is more than 100 feet from all property lines, conduct watering as necessary to prevent visible dust emissions from exceeding 100 feet in length in any direction.
Earth-moving: Construction fill areas:	(1b)	Maintain soil moisture content at a minimum of 12 percent, as determined by ASTM method D-2216, or other equivalent method approved by the Executive Officer, the California Air Resources Board, and the U.S. EPA. For areas which have an optimum moisture content for compaction of less than 12 percent, as determined by ASTM Method 1557 or other equivalent method approved by the Executive Officer and the California Air Resources Board and the U.S. EPA, complete the compaction process as expeditiously as possible after achieving at least 70 percent of the optimum soil moisture content. Two soil moisture evaluations must be conducted during the first three hours of active operations during a calendar day, and two such evaluations during each subsequent four-hour period of active operations.

Table 2 (Continued)

FUGITIVE DUST SOURCE CATEGORY	CONTROL ACTIONS	
Earth-moving: Construction cut areas and mining operations:	(1c)	Conduct watering as necessary to prevent visible emissions from extending more than 100 feet beyond the active cut or mining area unless the area is inaccessible to watering vehicles due to slope conditions or other safety factors.
Disturbed surface areas (except completed grading areas)	(2a/b)	Apply dust suppression in sufficient quantity and frequency to maintain a stabilized surface. Any areas which cannot be stabilized, as evidenced by wind driven fugitive dust must have an application of water at least twice per day to at least 80 percent of the unstabilized area.
Disturbed surface areas: Completed grading areas	(2c)	Apply chemical stabilizers within five working days of grading completion; OR
	(2d)	Take actions (3a) or (3c) specified for inactive disturbed surface areas.
Inactive disturbed surface areas	(3a)	Apply water to at least 80 percent of all inactive disturbed surface areas on a daily basis when there is evidence of wind driven fugitive dust, excluding any areas which are inaccessible to watering vehicles due to excessive slope or other safety conditions; OR
	(3b)	Apply dust suppressants in sufficient quantity and frequency to maintain a stabilized surface; OR
	(3c)	Establish a vegetative ground cover within 21 days after active operations have ceased. Ground cover must be of sufficient density to expose less than 30 percent of unstabilized ground within 90 days of planting, and at all times thereafter; OR
	(3d)	Utilize any combination of control actions (3a), (3b), and (3c) such that, in total, these actions apply to all inactive disturbed surface areas.

Table 2 (Continued)

FUGITIVE DUST SOURCE CATEGORY	CONTROL ACTIONS	
Unpaved Roads	(4a)	Water all roads used for any vehicular traffic at least once per every two hours of active operations [3 times per normal 8 hour work day]; OR
	(4b)	Water all roads used for any vehicular traffic once daily and restrict vehicle speeds to 15 miles per hour; OR
	(4c)	Apply a chemical stabilizer to all unpaved road surfaces in sufficient quantity and frequency to maintain a stabilized surface.
Open storage piles	(5a)	Apply chemical stabilizers; OR
	(5b)	Apply water to at least 80 percent of the surface area of all open storage piles on a daily basis when there is evidence of wind driven fugitive dust; OR
	(5c)	Install temporary coverings; OR
	(5d)	Install a three-sided enclosure with walls with no more than 50 percent porosity which extend, at a minimum, to the top of the pile. This option may only be used at aggregate-related plants or at cement manufacturing facilities.
All Categories	(6a)	Any other control measures approved by the Executive Officer and the U.S. EPA as equivalent to the methods specified in Table 2 may be used.

TABLE 3
CONTINGENCY CONTROL MEASURES FOR LARGE OPERATIONS

FUGITIVE DUST SOURCE CATEGORY	CONTROL MEASURES
Earth-moving	(1A) Cease all active operations; OR (2A) Apply water to soil not more than 15 minutes prior to moving such soil.
Disturbed surface areas	(0B) On the last day of active operations prior to a weekend, holiday, or any other period when active operations will not occur for not more than four consecutive days: apply water with a mixture of chemical stabilizer diluted to not less than 1/20 of the concentration required to maintain a stabilized surface for a period of six months; OR (1B) Apply chemical stabilizers prior to wind event; OR (2B) Apply water to all unstabilized disturbed areas 3 times per day. If there is any evidence of wind driven fugitive dust, watering frequency is increased to a minimum of four times per day; OR (3B) Take the actions specified in Table 2, Item (3c); OR (4B) Utilize any combination of control actions (1B), (2B), and (3B) such that, in total, these actions apply to all disturbed surface areas.
Unpaved roads	(1C) Apply chemical stabilizers prior to wind event; OR (2C) Apply water twice per hour during active operation; OR (3C) Stop all vehicular traffic.
Open storage piles	(1D) Apply water twice per hour; OR (2D) Install temporary coverings.
Paved road track-out	(1E) Cover all haul vehicles; OR (2E) Comply with the vehicle freeboard requirements of Section 23114 of the California Vehicle Code for both public and private roads.
All Categories	(1F) Any other control measures approved by the Executive Officer and the U.S. EPA as equivalent to the methods specified in Table 3 may be used.

Table 4
(Conservation Management Practices for Confined Animal Facilities)

SOURCE CATEGORY	CONSERVATION MANAGEMENT PRACTICES
Manure Handling **(Only applicable to Commercial Poultry Ranches)**	(1a) Cover manure prior to removing material off-site; AND (1b) Spread the manure before 11:00 AM and when wind conditions are less than 25 miles per hour; AND (1c) Utilize coning and drying manure management by removing manure at laying hen houses at least twice per year and maintain a base of no less than 6 inches of dry manure after clean out; or in lieu of complying with conservation management practice (1c), comply with conservation management practice (1d). (1d) Utilize frequent manure removal by removing the manure from laying hen houses at least every seven days and immediately thin bed dry the material.
Feedstock Handling	(2a) Utilize a sock or boot on the feed truck auger when filling feed storage bins.
Disturbed Surfaces	(3a) Maintain at least 70 percent vegetative cover on vacant portions of the facility; OR (3b) Utilize conservation tillage practices to manage the amount, orientation and distribution of crop and other plant residues on the soil surface year-round, while growing crops (if applicable) in narrow slots or tilled strips; OR (3c) Apply dust suppressants in sufficient concentrations and frequencies to maintain a stabilized surface.
Unpaved Roads	(4a) Restrict access to private unpaved roads either through signage or physical access restrictions and control vehicular speeds to no more than 15 miles per hour through worker notifications, signage, or any other necessary means; OR (4b) Cover frequently traveled unpaved roads with low silt content material (i.e., asphalt, concrete, recycled road base, or gravel to a minimum depth of four inches); OR (4c) Treat unpaved roads with water, mulch, chemical dust suppressants or other cover to maintain a stabilized surface.
Equipment Parking Areas	(5a) Apply dust suppressants in sufficient quantity and frequency to maintain a stabilized surface; OR (5b) Apply material with low silt content (i.e., asphalt, concrete, recycled road base, or gravel to a depth of four inches).

APPENDIX C
CULTURAL RESOURCES ASSESSMENT

DRAFT PHASE I CULTURAL RESOURCES ASSESSMENT
SAN FERNANDO VALLEY WATER RECYCLING PROJECT
CITY OF LOS ANGELES, CALIFORNIA

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U.S.G.S. Quadrangle: Burbank, Canoga Park, and Van Nuys, CA

Keywords:, Gabrieliño, Mission San Fernando Rey, North Hollywood, San Fernando Valley, Van Nuys, Sherman Oaks, Reseda

TABLE OF CONTENTS

LIST OF FIGURES

Figure **Page**

LIST OF PLATES

Plates **Page**

LIST OF TABLES

Tables **Page**

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EXECUTIVE SUMMARY

AECOM was retained by the Los Angeles Department of Water and Power (LADWP) to conduct a Phase I cultural resources assessment to identify potential impacts to cultural resources in compliance with provisions of the California Environmental Quality Act (CEQA). The project proposes to maximize the use of recycled water to replace potable water sources for irrigation and industrial uses by extending the recycled water pipeline network to the San Fernando Valley. This project is being undertaken in accordance with the 2010 Urban Water Management Plan and would include six segments. The construction of these six segments would expand the supply of recycled water to customers located throughout the San Fernando Valley. The LADWP is the lead agency.

A records search in connection with this project was conducted at the South Central Coastal Information Center (SCCIC) housed at California State University, Fullerton. The records search revealed that approximately 25 percent of the proposed project area had been subject to previous cultural resources study and no cultural resources had been identified within any of the six segments.

A Native American contact program was implemented consisting of an information letter, response form, and map that were sent to local Native American representatives as designated by the Native American Heritage Commission (NAHC). Additionally, a Sacred Lands File search conducted for this project by the NAHC did result in the identification of documented sacred lands within, or in the vicinity of, the proposed project area.

In addition, a field survey was conducted as part of this assessment to identify the presence of any cultural resources in the proposed project area. The field survey did not result in the identification of any cultural resources.

Although no cultural resources were identified within the project area during the course of this Phase I background research and cultural resources field survey, archaeological resources may be located within portions of the project area. During prehistoric times, the Project area may have been occupied by the *Gabrielino/Fernandeño* Indians. Development in the project area extends back almost 100 years. As such, a mitigation measure has been recommended that archaeological monitoring of the North Hollywood Park segment, Van Nuys Sherman Oaks Park segment, and the VA Hospital segment pipe jacking entry and exit pits in the location of the former S.P.R.R. crossing, during ground disturbing activities will be conducted by a qualified archaeological monitor who is working under the guidance of an archaeologist meeting, at a minimum, the standards of the Secretary of the Interior. Ground disturbing activities include, but are not limited to, geotechnical boring, boring, trenching, grading, excavating, and the demolition of building foundations. The archaeological monitor will observe ground disturbing activities within the required areas to depth.

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INTRODUCTION

This document reports a Phase I cultural resources assessment in connection with the San Fernando Valley Water Recycling Project (San Fernando Valley WRP). The City of Los Angeles Department of Water and Power (LADWP) proposes to extend the existing recycled water pipeline network to the San Fernando Valley. The project would expand the use of recycled water at customers along Sherman Way, Victory Boulevard, Van Nuys Boulevard, and various other roadways.

In order to achieve the objectives of the project to expand the existing recycled water pipeline network within the San Fernando Valley, the proposed project would be broken down into six segments: North Hollywood Park, Valley Plaza Park, Van Nuys Sherman Oaks Park, Reseda Park, VA Hospital, and Pierce College. All segments would connect to existing recycled water pipeline systems in the area using a 16-inch connection and 16-inch diameter distribution lines and will all be constructed entirely within the public road right-of-way. In total, approximately 109,800 linear feet of new recycled water pipeline would be installed with the implementation of the proposed project.

This document is prepared in support of a Draft Initial Study/Mitigated Negative Declaration prepared in accordance with CEQA, Public Resources Code Section 21000 *et seq.* and the State CEQA Guidelines, CCR Section 15000 *et seq.*

REPORT ORGANIZATION

This report is organized following the *Archaeological Resource Management Reports (ARMR): Recommended Contents and Format* guidelines, Department of Parks and Recreation (DPR), Office of Historic Preservation, State of California, 1990. These guidelines provide a standardized format and suggested report content, scaled to the size of the project. This report first includes a project description including project location and setting, and proposed project work. Next, the environmental and cultural settings of the proposed project area are presented. This is followed by the archival research methods and results which also includes a description of the Sacred Lands File search and discussion of the results including the Native American Contact Program. In addition, a paleontological records search and the results are provided. Then survey methodology and results are described. The final section summarizes the results of the cultural resources investigation and provides recommendations and conclusions for project mitigation.

PROJECT PERSONNEL

AECOM personnel involved in the cultural resources assessment are as follows: James Wallace, M.A., R.P.A., served as report author and conducted archival research; Linda Kry, B.A., served as report co-author, conducted archival research and archaeological survey; Sara Dietler, B.A., performed senior review; Adela Amaral, M.A. R.P.A. archaeological surveyor; and Tim Harris, B.A., provided graphics and GIS support. Resumes of key personnel are included in Appendix A.

PROJECT DESCRIPTION

PROJECT LOCATION AND SETTING

The project area is situated in developed areas within the San Fernando Valley area of the City of Los Angeles. It is bordered by the San Gabriel Mountains to the northeast, Santa Susanna Mountains to the northwest, and the Santa Monica Mountains to the south (Figure 1). The project area is located on the Burbank, Canoga Park, and Van Nuys 7.5-minute topographic quadrangles in sectioned portions of Township 1 North, Ranges 14, 15, and 16 West, and Township 2 North, Range 15 West.

The proposed project would consist of six segments, which would be located within public road rights-of-way in urbanized and fully developed areas. The six segments would extend to North Hollywood Park (Figure 2a), Valley Plaza Park (Figure 2b), Van Nuys Sherman Oaks Park (Figure 2c), Reseda Park (Figure 2d), the Veteran's Administration Hospital (VA Hospital) (Figure 2e), and Pierce College (Figure 2f). All six segments abut residential, commercial, public facilities, and recreational or open space uses. Additionally, the VA Hospital segment would run adjacent to industrial uses.

PROPOSED UNDERTAKING

The project is part of a broader effort by the City of Los Angeles to create reliable and sustainable sources of water for the future of the city. A key component of this effort is to maximize the use of recycled water. With imported water supplies becoming increasingly restricted and unreliable, the LADWP 2010 Urban Water Management Plan sets a goal for 59,000 acre-feet per year (AFY) of potable supplies to be replaced by recycled water by 2035. Specific objectives related to the goal of creating reliable and sustainable sources of water are to:

- Improve the reliability of the City of Los Angeles water supply through increased recycled water use;
- Comply with LADWP's 2010 Urban Water Management Plan outlining the steps to sustain a reliable water supply to meet current and future demand;
- Construct the necessary infrastructure to convey recycled water to the various industrial and irrigation customers in the San Fernando Valley portion of Los Angeles;
- Provide recycled water to some of the City of Los Angeles' largest water customers, and where feasible, switch their potable water connection to recycled water for supplying their non-potable uses.

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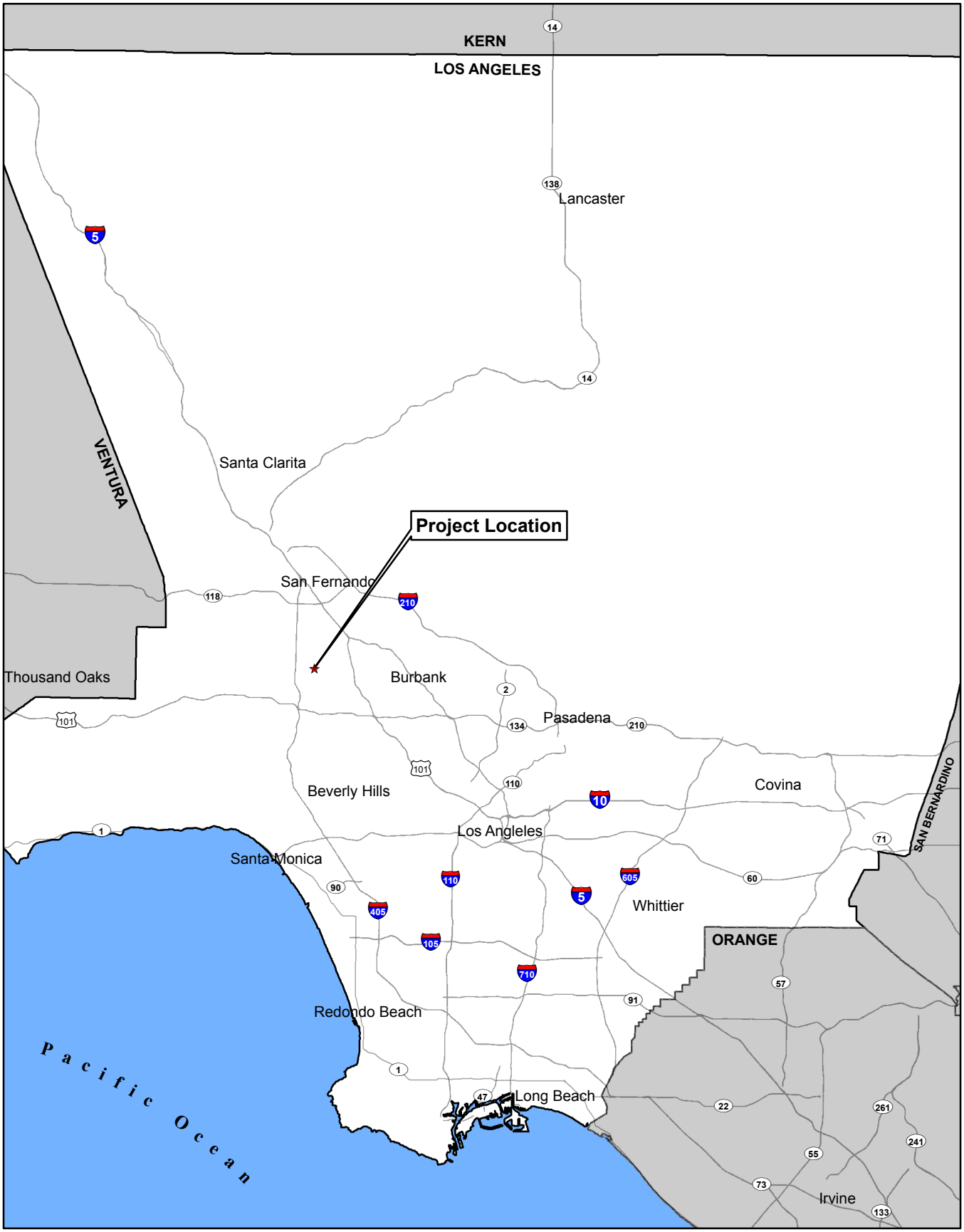

Source: ESRI 2012 Imagery

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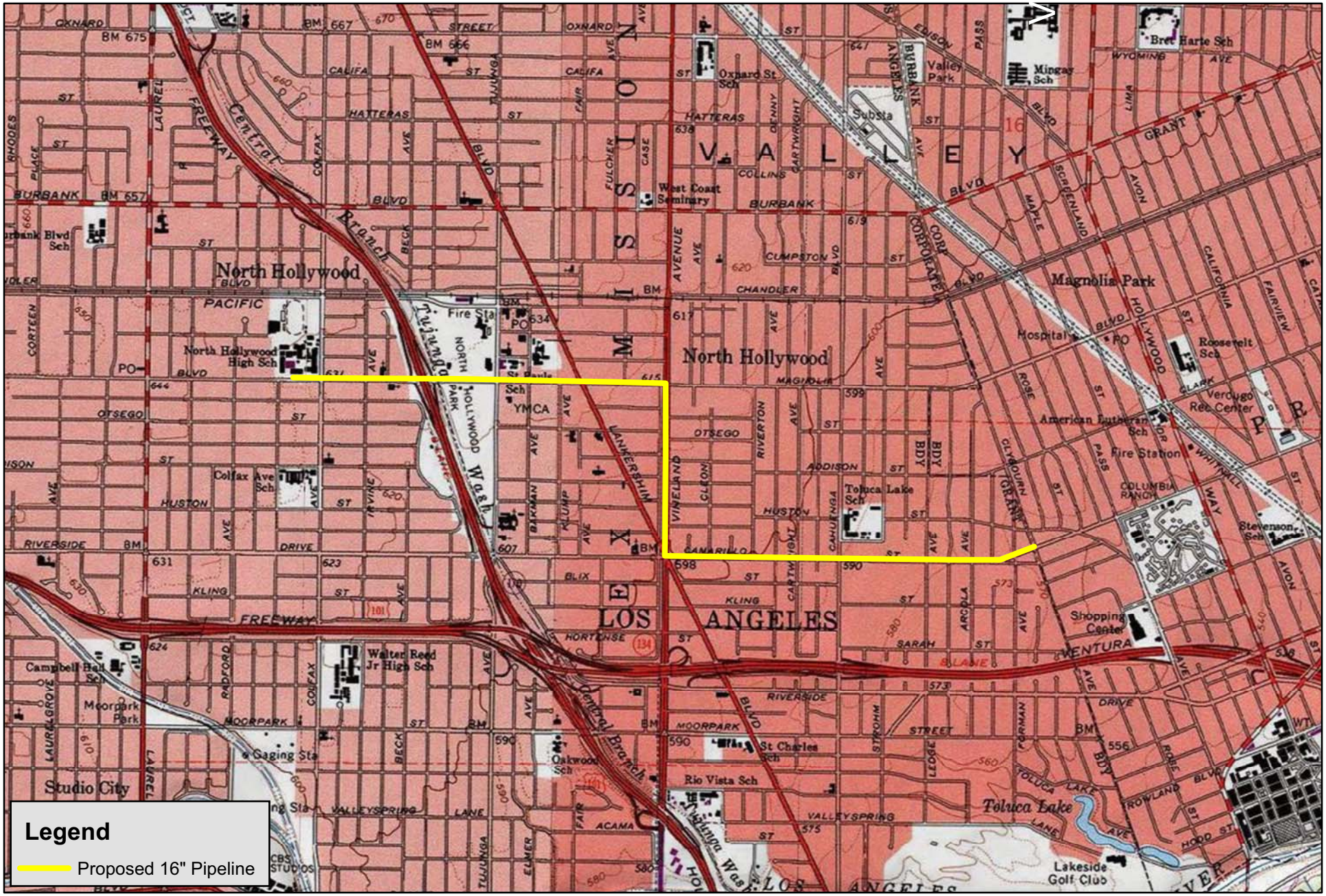
AECOM

Figure 1

Regional Location Map



Source: National Geographic USA TOPO Maps 2011; Van Nuys (1972); Burbank (1972)

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Figure 2a
North Hollywood Park Segment

San Fernando Water Recycling Project

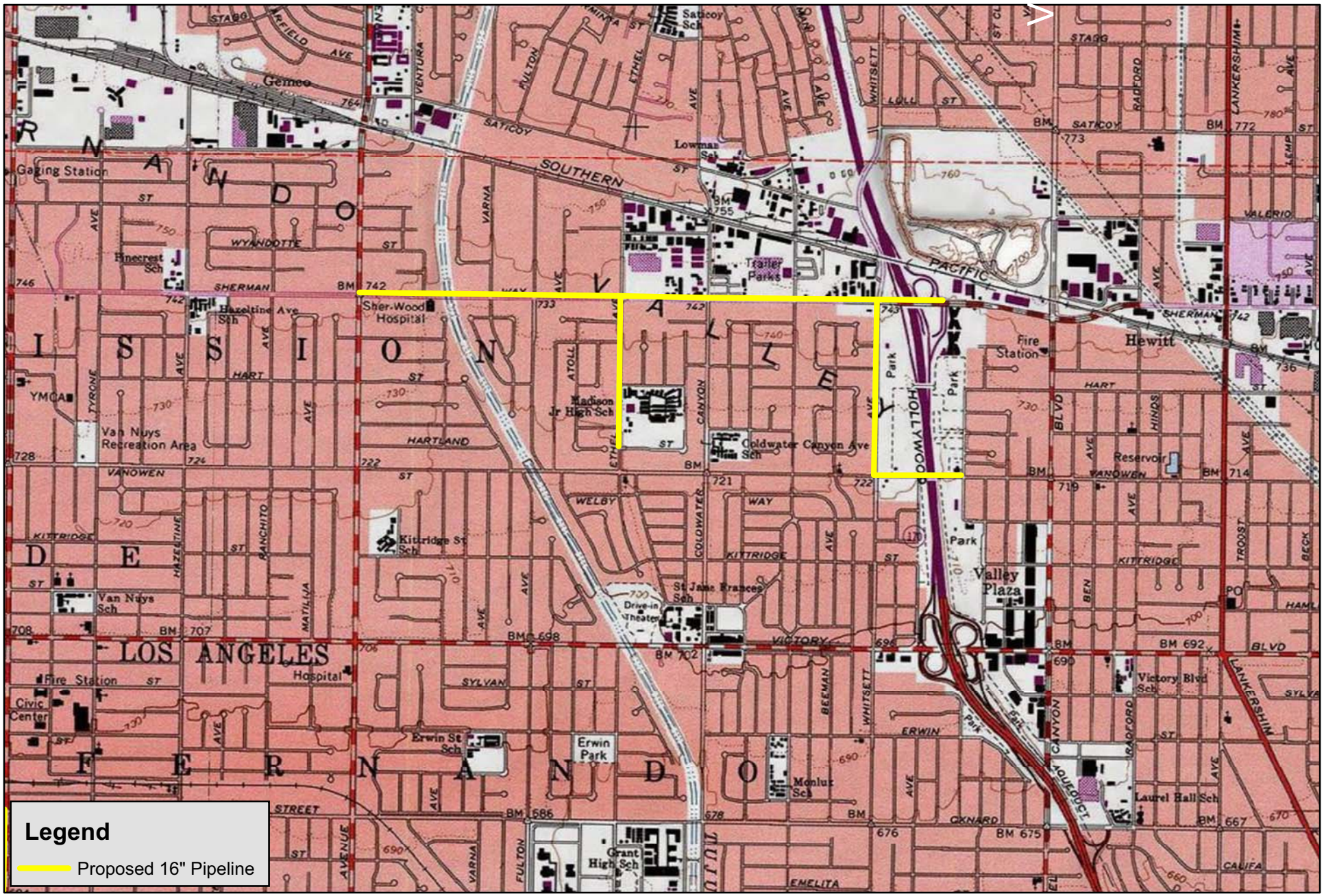

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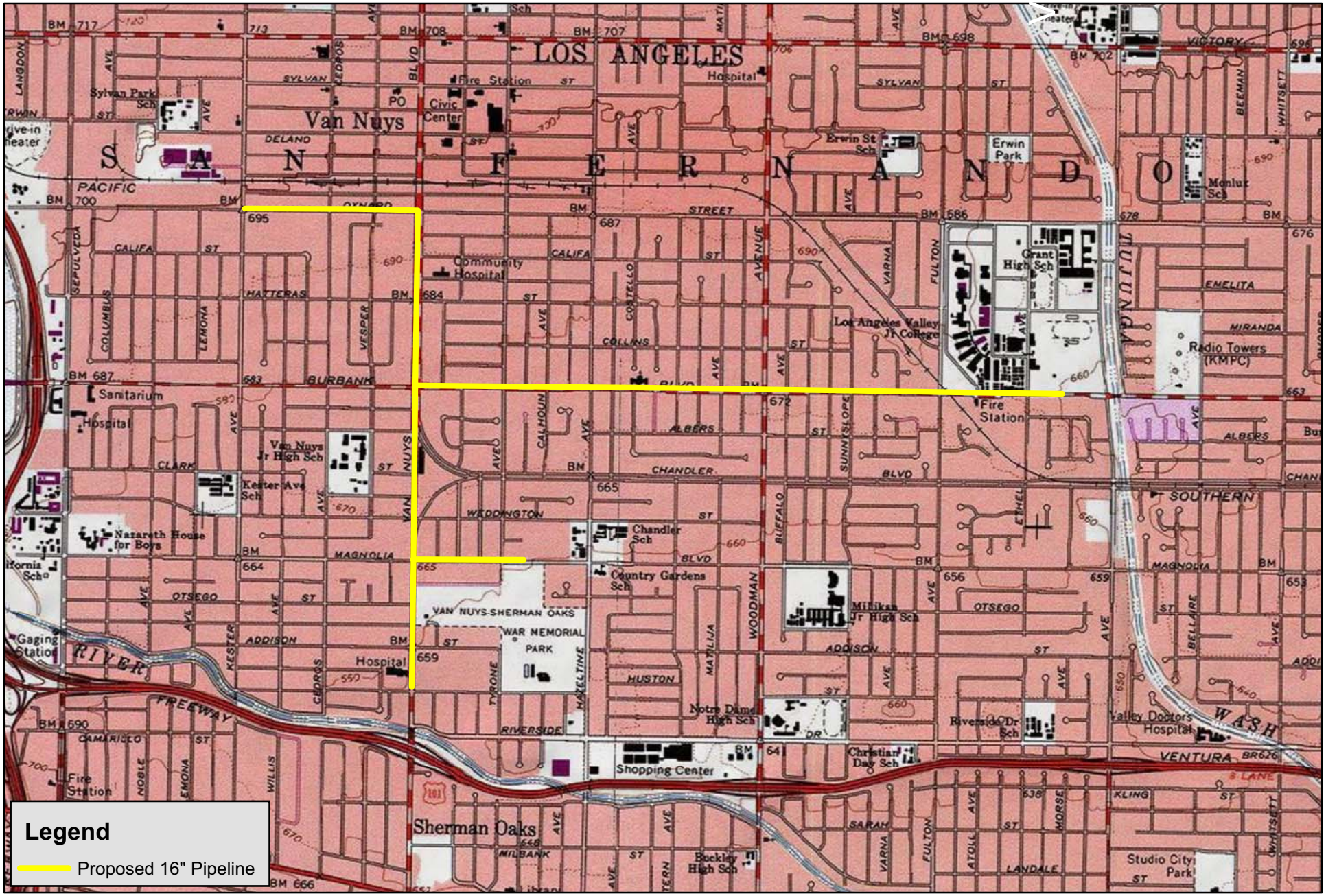
Figure 2b

Valley Plaza Park Segment

San Fernando Water Recycling Project



Source: National Geographic USA TOPO Maps 2011; Van Nuys (1972)

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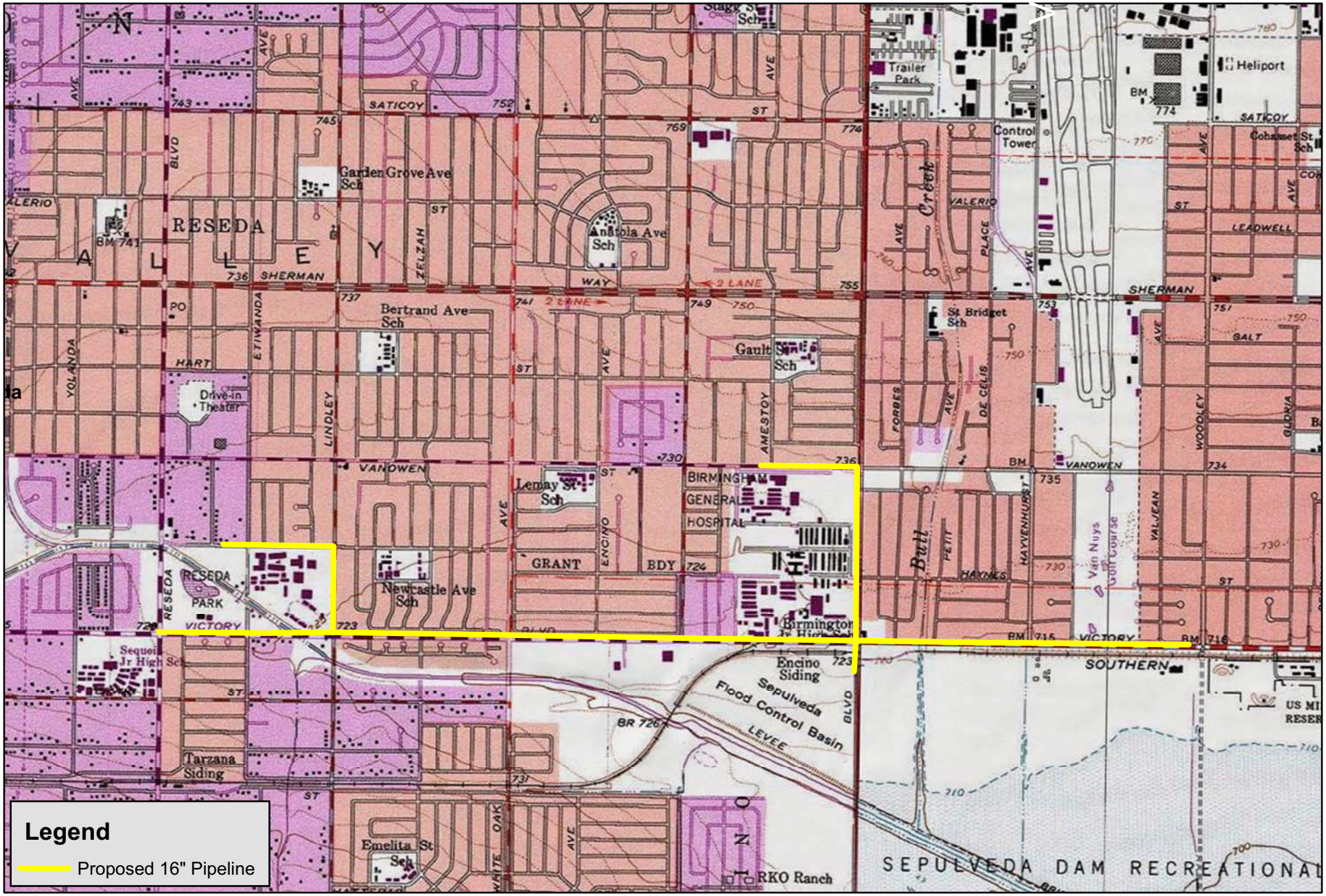
Figure 2c

Van Nuys Sherman Oaks Park Segment

San Fernando Water Recycling Project



Source: Canoga Park (1967)

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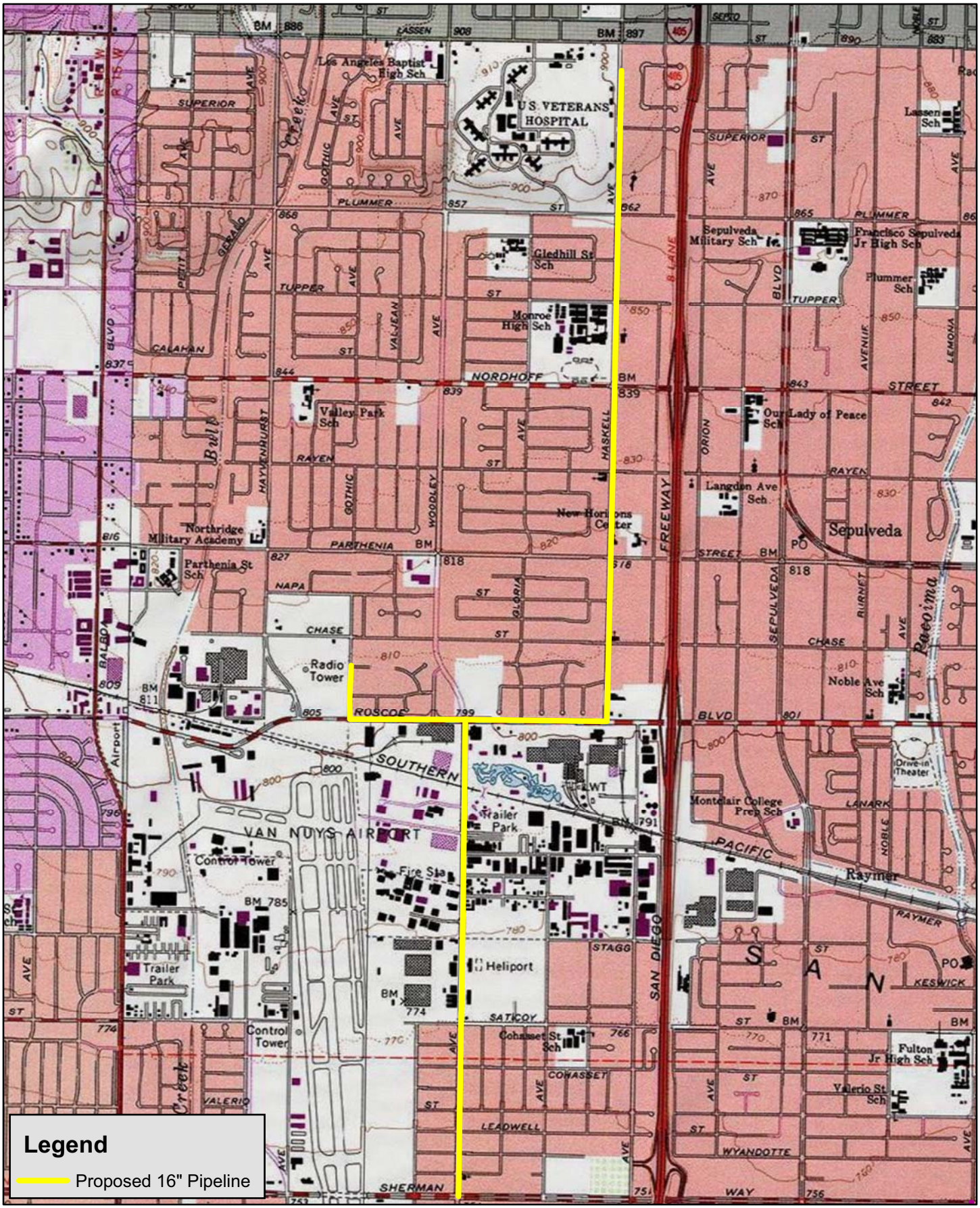
AECOM

Figure 2d

Reseda Park Segment

San Fernando Water Recycling Project



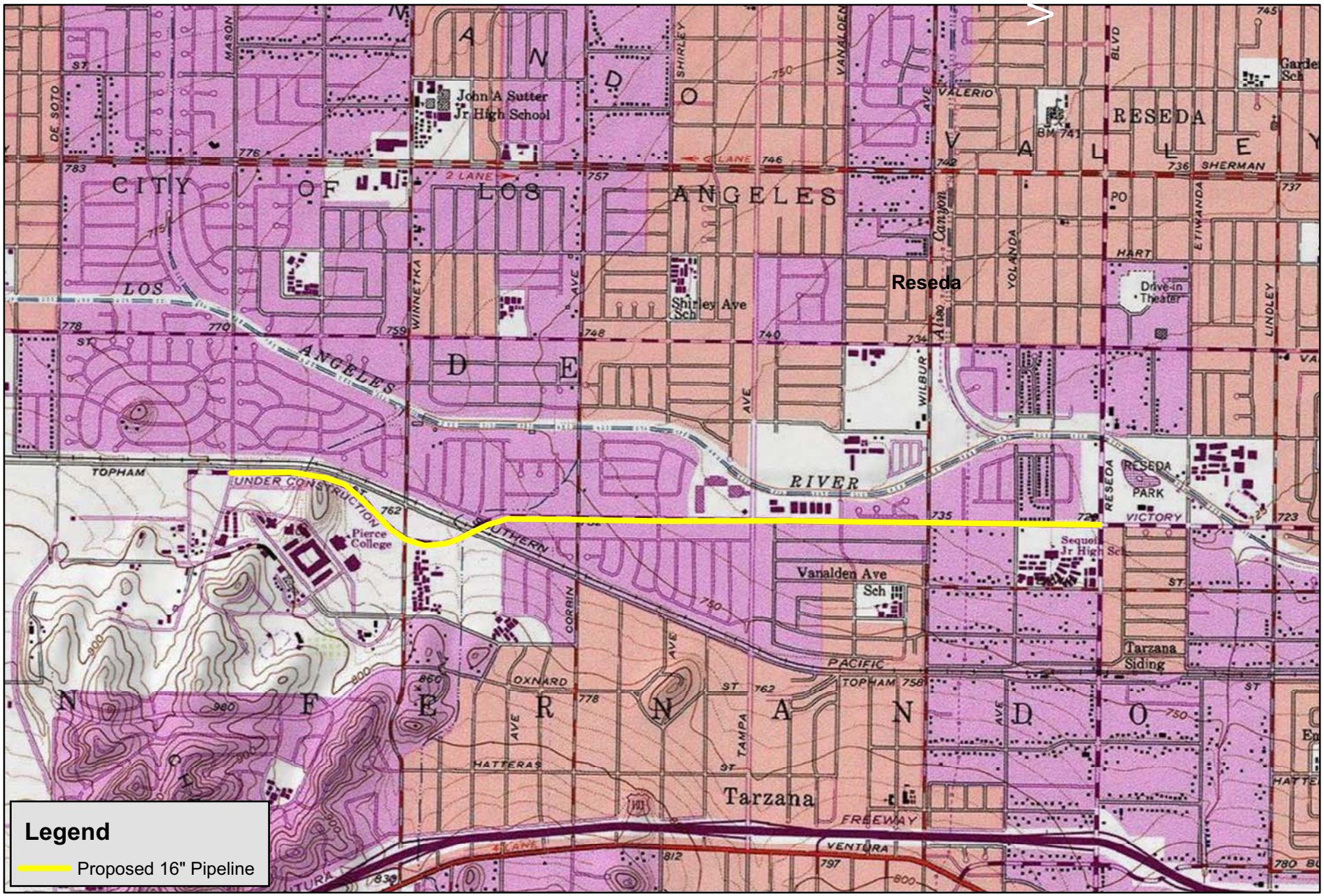
Source: National Geographic USA TOPO Maps 2011; Van Nuys (1972)

AECOM

Figure 2e

VA Hospital Segment

San Fernando Water Recycling Project



Source: Canoga Park (1967)

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0 0.25 0.5 0.75 1 Miles

Figure 2f

Pierce College Segment

San Fernando Water Recycling Project

PROJECT DESCRIPTION

The project proposes to maximize the use of recycled water to replace potable water sources for irrigation and industrial uses by extending the recycled water pipeline network to the San Fernando Valley. This project is being undertaken in accordance with the 2010 Urban Water Management Plan and would include the six segments discussed below (Figure 3).

The proposed San Fernando Valley WRP (proposed project) would be located within the Valley Service Area and supplied with recycled water from the Donald C. Tillman Water Reclamation Plant. Additionally, the proposed project would include a connection to the City of Burbank recycled water system, which receives recycled water from the Burbank Water Reclamation Plant. The construction of these six segments would expand the supply of recycled water to customers located throughout the San Fernando Valley. All segments would connect to existing recycled water pipeline systems in the area using a 16-inch connection and 16-inch diameter distribution lines. The North Hollywood Park segment would connect to the existing City of Burbank recycled water pipeline; the Valley Plaza Park, Van Nuys Sherman Oaks Park, Reseda Park, and VA Hospital segments would connect to the existing LADWP recycled water pipeline; and the Pierce College segment would connect to the Reseda Park segment. In total, approximately 109,800 linear feet of new recycled water pipeline would be installed with implementation of the proposed project.

The North Hollywood Park segment would connect to an existing 16-inch City of Burbank pipeline via a 16-inch point connection on the City of Los Angeles border at Verdugo Avenue and Clybourn Avenue. From the Burbank pipeline connection point, this segment would extend approximately 600 feet west on Verdugo Avenue to Camarillo Street, approximately 5,200 feet west on Camarillo Street to Vineland Avenue, approximately 2,600 feet north on Vineland Avenue to Magnolia Boulevard, and approximately 5,600 feet west on Magnolia Boulevard. It would terminate at North Hollywood High School, located at 5231 Colfax Avenue on the corner of Magnolia Boulevard and Colfax Avenue. This segment would be trenched across the San Fernando Wash on Magnolia Boulevard approximately 900 feet west of Tujunga Avenue.

The Valley Plaza Park segment would connect to the existing 54-inch LADWP pipeline via a 16-inch connection point at the intersection of Sherman Way and Woodman Avenue. This segment would extend approximately 8,800 feet east on Sherman Way from the connection point to State Route (SR) 170. Two extensions would connect to this main segment. One extension would travel approximately 2,200 feet south on Ethel Avenue from Sherman Way and terminate at James Madison Middle School, located at 13000 Hart Street. The second extension would travel approximately 2,600 feet south on Whitsett Avenue from Sherman Way to Vanowen Street, and approximately 1,100 feet east on Vanowen Street terminating at Valley Plaza Park, located at 12240 Archwood Street. This segment would cross the San Fernando Wash in two places. The first channel crossing would occur on Sherman Way approximately 1,300 feet east of Woodman Avenue, and the second channel crossing would occur on Vanowen Street approximately 1,021 feet east of Whitsett Avenue. For the channel crossing on Sherman Way, the pipe would be hung from the side of the roadway or installed through an existing utility duct. For the channel

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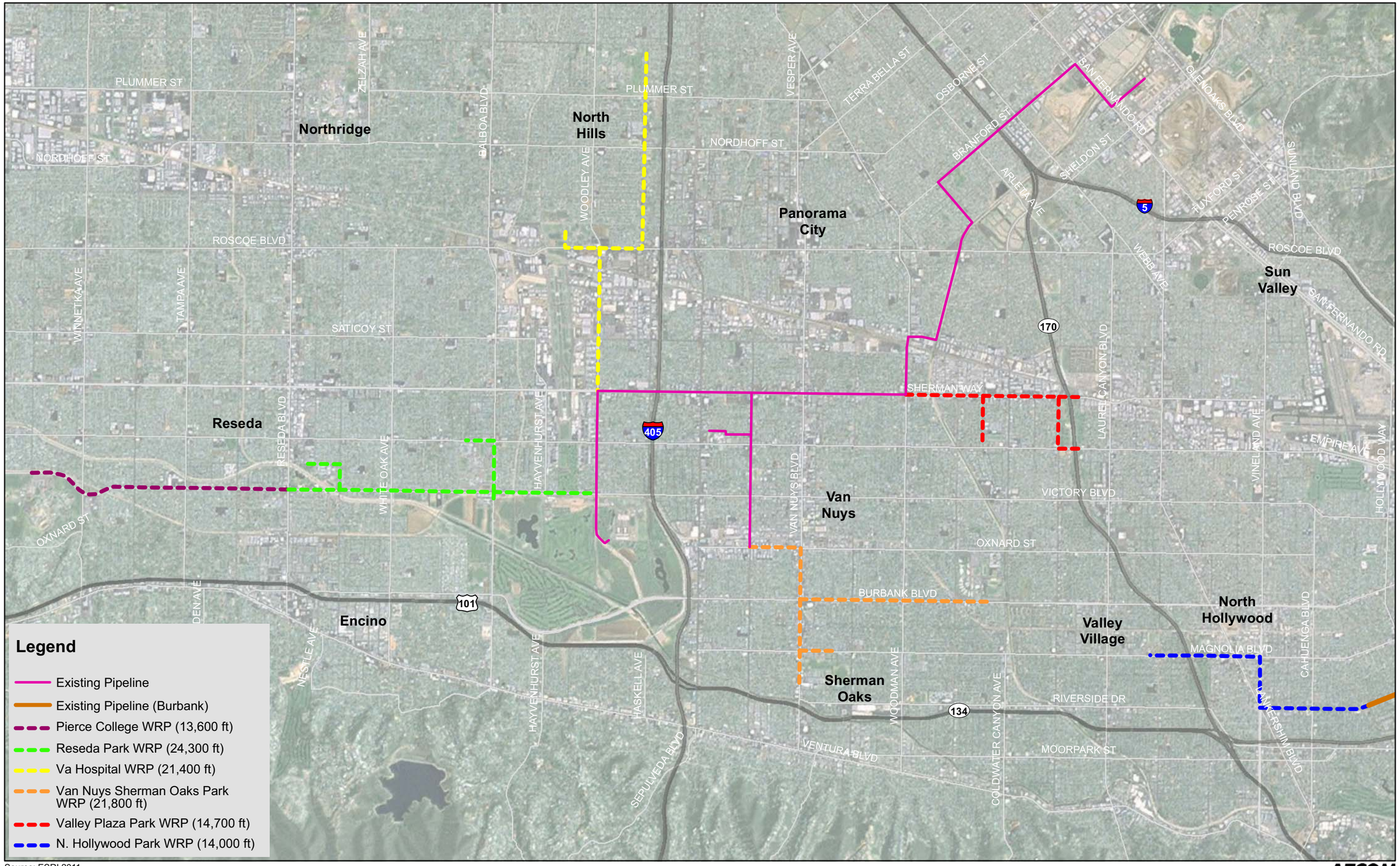

Source: ESRI 2011

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AECOM

Figure 3

Project Location Map

San Fernando Water Recycling Project

crossing on Vanowen Street, trenching would be used. Additionally, this route would cross over the SR 170 freeway overpass bridge on Sherman Way, which would require installation through an existing utility duct.

The Van Nuys Sherman Oaks Park segment would begin on Kester Avenue just south of the Metro Orange Line Busway via an extension of the existing 16-inch LADWP pipeline. This segment would extend approximately 360 feet south on Kester Avenue from the connection point to Oxnard Street, approximately 2,600 feet east on Oxnard to Van Nuys Boulevard, and approximately 6,940 feet south on Van Nuys Boulevard terminating at Sherman Oaks Hospital, located at 4929 Van Nuys Boulevard. This segment would also include two east extensions. One of these extensions would travel approximately 10,000 feet east on Burbank Boulevard from Van Nuys Boulevard and terminate at Los Angeles Valley College, located at 5800 Fulton Avenue. The other extension would travel approximately 1,900 feet east on Magnolia Boulevard from Van Nuys Boulevard and terminate at Van Nuys Sherman Oaks Park, located at 14201 Huston Street.

The Reseda Park segment would connect to the existing 54-inch LADWP pipeline via a 16-inch connection point at the intersection of Victory Boulevard and Woodley Avenue. This segment would extend approximately 15,800 feet west on Victory Boulevard from the connection point terminating at the intersection of Victory Boulevard and Reseda Boulevard. Three extensions would connect to this main segment. One extension would travel approximately 1,000 feet south on Balboa Boulevard from Victory Boulevard and terminate at the Sepulveda Basin Sports Complex, located 6200 North Louise Avenue. Another extension would travel approximately 2,650 feet north on Balboa Boulevard from Victory Boulevard to Vanowen Street, and approximately 1,350 feet west on Vanowen Street terminating at Mulholland Middle School, located at 17120 Vanowen Street. A third extension would travel approximately 1,400 feet north on Lindley Avenue from Victory Boulevard to Kittridge Street, and approximately 2,100 feet west on Kittridge Street and terminate on the north side of Reseda Park just east of the intersection of Kittridge Street and Reseda Boulevard. There would be two channel crossings on Victory Boulevard. The first channel crossing would occur over Bull Creek approximately 1,050 feet east of Balboa Boulevard, and the other crossing would occur over the Los Angeles River approximately 600 feet west of Lindley Avenue. For both channel crossings, the pipelines would be hung from the side or underneath the bridge.

The VA Hospital segment would connect to the existing 54-inch LADWP pipeline via a 16-inch connection point at the intersection of Sherman Way and Woodley Avenue. This segment would extend approximately 7,300 feet north on Woodley Avenue from the connection point and terminate at the intersection of Woodley Avenue and Roscoe Boulevard. Two extensions would branch off of this main segment. One extension would travel approximately 1,800 feet west on Roscoe Boulevard from Woodley Avenue to Gothic Avenue, and approximately 600 feet north on Gothic Avenue terminating at Valley Sod Farms, located at 16405 Chase Street. Another extension would travel approximately 2,200 feet east on Roscoe Boulevard from Woodley Avenue to Haskell Avenue, then approximately 9,500 feet north on Haskell Avenue and terminate at the VA Hospital, located at 16111 Plummer Street. This segment would cross the

Amtrak/Metrolink tracks located on Woodley Avenue approximately 1,000 feet south of Roscoe Boulevard. Trenchless construction would be required for this rail crossing.

The Pierce College segment would connect to the westernmost termination point of the Reseda Park segment via a 16-inch pipeline extension at the intersection of Reseda Boulevard and Victory Boulevard and travel approximately 13,600 feet west on Victory Boulevard, terminating at the intersection of Victory Boulevard and Mason Avenue at Pierce College, located at 6201 Winnetka Avenue. This segment would cross the Metro Orange Line Busway on Victory Boulevard approximately 1,000 feet east of Winnetka Avenue.

Installation of the recycled water pipeline would occur within public roads and using a cut and cover trenching technique. An approximately 3-foot wide by 5-foot deep trench would be excavated within the roadway that could be covered with metal plates during periods of the day when construction is not ongoing. Once the pipeline has been installed within a segment, the trench would be backfilled with imported slurry and returned to its original condition. Recycled water pipeline installation would necessitate restrictions of on street parking and closure of up to two lanes of the roadway depending on the location of construction. In general, approximately 90 linear feet of pipeline would be installed per day.

Construction is anticipated to occur sequentially along the alignment of each segment to minimize long-term disruption within any one area. Construction would generally occur from east to west, beginning with the North Hollywood Park segment. Subsequent segments would be constructed in the following order: Valley Plaza Park, Van Nuys Sherman Oaks Park, Reseda Park, VA Hospital, and Pierce College. Materials and equipment staging and construction worker parking would use City facilities and public parking lots located along or near the proposed alignments.

Railroad crossings would require tunneling instead of trenching via a procedure called "pipe jacking." Launching and receiving pits would be located on either end of the tunnel. Hydraulic jacks would drive pipes through the ground. Excavated soil and other material would be removed from the pits and disposed of at an appropriate regional landfill. The launching and receiving pits would be backfilled with imported slurry and returned to their existing condition.

CONSTRUCTION SCHEDULE

Construction of the San Fernando Valley WRP is anticipated to begin in summer 2017 and take approximately 5 years to complete, concluding in summer 2022.

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SETTING

ENVIRONMENTAL SETTING

The project is located within the San Fernando Valley of the Los Angeles Basin. The Central Transverse Ranges Province forms an east-west trending northern backdrop, while the northwest-oriented Peninsular Ranges Province bounds to the south. The Los Angeles Reservoir is nestled at the foot of San Fernando Pass that straddles the San Gabriel Mountains to the northeast and Santa Susana Mountains to the north. The generally Mediterranean climate is characterized as mild, with warm, nearly rainless summers and mild winters with only occasional storms.

The San Fernando Valley is located within a valley floor with elevations ranging from 500 feet above sea level in the southeast to 1,000 feet above sea level in the west. Natural vegetation communities located within the vicinity of the Project consist mostly of willow woodland, mulefat scrub, and coastal sage scrub. Also present are areas of disturbed and non-native vegetation including park, ruderal, and pond that can be characterized as primarily park/ruderal habitat. Landscaping consists of ornamental tree plantings and maintained grass lawns, as well as areas comprised of ornamental trees with understory of ruderal species. Ruderal grassland occurs in disturbed areas where vegetation consists mainly of early successional native herbaceous plants. Black mustard and wild radish (*Ralphanus sativus*) are common in this habitat as are several nonnative grasses, including ripgut brome (*Bromus diandrus*) and foxtail chess (*Bromus rubens*). Fauna historically found in the area include black-tailed jackrabbit (*Lepus californicus*), coyote (*Canis latrans*), and numerous rodents such as Botta's pocket gopher (*Thomomys bottae*), and pocket mice (*Perognathus* spp.). Red-tailed hawks (*Buteo jamaicensis*) were commonly found, as were western scrub jays (*Alphelocoma californica*), mourning doves (*Zenaida macroura*), and California quail (*Callipepla californica*).

CULTURAL SETTING

As a framework for discussing the types of cultural resources that might be encountered in the vicinity of the proposed project, the following section summarizes our current understanding of major prehistoric and historic developments in and around Los Angeles and the San Fernando Valley. This is followed by a more focused discussion of the history of the Project area itself.

Prehistoric Overview

While people are known to have inhabited southern California beginning at least 13,000 years Before Present (B.P.) (Arnold et al. 2004), the first evidence of human occupation in the Los Angeles area dates to at least 9,000 years B.P. and is associated with a period known as the Millingstone Cultural Horizon (Wallace 1955; Warren 1968). Millingstone populations established permanent settlements that were located primarily on the coast and in the vicinity of estuaries, lagoons, lakes, streams, and marshes where a variety of resources, including seeds,

fish, shellfish, small mammals, and birds, were exploited. Early Millingstone occupations are typically identified by the presence of handstones (manos) and millingstones (metates), while those Millingstone occupations dating later than 5000 B.P. contain a mortar and pestle complex as well, signifying the exploitation of acorns in the region.

Although many aspects of Millingstone culture persisted, by 3500 B.P., a number of socioeconomic changes occurred (Erlandson 1994; Wallace 1955; Warren 1968). These changes are associated with the period known as the Intermediate Horizon (Wallace 1955). Increasing population size necessitated the intensification of existing terrestrial and marine resources (Erlandson 1994). This was accomplished in part through use of new technological innovations such as the circular shell fishhook on the coast, and in inland areas, use of the mortar and pestle to process an important new vegetal food staple, acorns; and the dart and atlatal resulting in a more diverse hunting capability. Evidence for shifts in settlement patterns has been noted as well at a variety of locations at this time and is seen by many researchers as reflecting increasingly territorial and sedentary populations. The Intermediate Horizon marks a period in which specialization in labor emerged, trading networks became an increasingly important means by which both utilitarian and non-utilitarian materials were acquired, and travel routes were extended.

The Late Prehistoric period, spanning from approximately 1500 years B.P. to the Spanish mission era, is the period associated with the florescence of contemporary Native American groups. The northern San Fernando Valley was the northernmost extent of the territory occupied by people whom the Spanish referred to as the *Fernadeño*, whose name was derived from nearby Mission San Fernando. The *Fernadeño* spoke one of four regional Uto-Aztecan dialects of Gabrielino, a Cupan language in the Takic family, and were culturally identical to the Gabrielino. The Tataviam and Chumash, of the Hokan Chumashan language family, lived to the north and west of this territory, respectively, and it is likely that the territorial boundaries between these linguistically distinct groups fluctuated in prehistoric times (Bean and Smith 1978; Shipley 1978).

Occupying the southern Channel Islands and adjacent mainland areas of Los Angeles and Orange counties, the Gabrielino are reported to have been second only to their Chumash neighbors in terms of population size, regional influence, and degree of sedentism (Bean and Smith 1978). The Gabrielino are estimated to have numbered around 5,000 in the pre-contact period (Kroeber 1925). Maps produced by early explorers indicate the existence of at least forty Gabrielino villages, but as many as 100 may have existed prior to contact with Europeans (Bean and Smith 1978; McCawley 1996; Reid 1939[1852]).

Prehistoric subsistence consisted of hunting, fishing, and gathering. Small terrestrial game was hunted with deadfalls, rabbit drives, and by burning undergrowth, while larger game such as deer were hunted using bows and arrows. Fish were taken by hook and line, nets, traps, spears, and poison (Bean and Smith 1978; Reid 1939[1852]). The primary plant resources were the acorn, gathered in the fall and processed with mortars and pestles, and various seeds that were harvested in late spring and summer and ground with manos and metates. The seeds included chia and other sages, various grasses, and islay or holly leafed-cherry (Reid 1939[1852]).

Historic Overview

Spanish explorers made brief visits to Gabrielino territory in both 1542 and 1602, and on both occasions the two groups exchanged trade items (McCawley 1996). Sustained contact with Europeans did not commence until the onset of the Spanish Period, which began in 1769 when Gaspar de Portola and a small Spanish contingent began their exploratory journey along the California coast from San Diego to Monterey. Mission *San Fernadiño Rey de España*, the seventeenth of the twenty-one Franciscan missions in Alta California, was founded on September 8, 1797 and completed less than a year later. Its location was chosen as a stopping point between Mission San Gabriel and Mission San Buenaventura, and prospered by selling cattle hides and tallow and various fruit crops to the nearby Pueblo of Los Angeles (Wright 1992). Agriculture was made possible in the relatively dry area through the construction of a stone masonry dam in 1808, bringing water from the mountains to mission vineyards by way of a 1.3-mile long aqueduct, completed in 1811.

Gabrielino villages are reported by early explorers to have been most abundant along the dominant rivers of the Los Angeles Basin, including the Los Angeles, San Gabriel, and Santa Ana Rivers. Ten important villages were located within the San Fernando Valley, and the most populous of these was *Pasheeknga*, located near where the Mission was established. Other northern San Fernando Valley communities included *Tohuunga* and *Muuhonga*. *Tohuunga* was likely located near the mouth of Little Tujunga Canyon, while according to Gabrielino informant Jose Zalvidea, *Muuhonga* was located "about two and a half miles from San Fernando, farther up the canyon from San Fernando" (McCawley 1996:40).

By the early 1800s, the majority of the surviving Gabrielino population had entered the mission system. Mission life offered the Indians security in a time when their traditional trade and political alliances were failing and epidemics and subsistence instabilities were increasing (Jackson 1999). This lifestyle change also brought with it significant negative consequences for Gabrielino health and cultural integrity.

Alta California became a state, with its capital at Monterey, when Mexico won its independence from Spain in 1821. The authority of the California missions gradually declined, culminating with their secularization in 1834. Although the Mexican government directed that each mission's lands, livestock, and equipment be divided among its converts, the majority of these holdings quickly fell into non-Indigenous hands. Mission buildings were abandoned and quickly fell into decay. If mission life was difficult for Native Americans, secularization was typically worse. After two generations of dependence on the missions, they were suddenly disenfranchised. After secularization, "nearly all of the Gabrielinos went north while those of San Diego, San Luis, and San Juan overran this county, filling the Angeles and surrounding ranchos with more servants than were required" (Reid 1977 [1851]:104). Upon his 1852 visit to Los Angeles, John Russel Barlett wrote,

> I saw more Indians about this place than in any part of California I had yet visited. They were chiefly mission Indians, i.e., those who had been connected with the missions and had derived their support from them until the suppression of those

> establishments. They are a miserable, squalid-looking set, squatting or lying about the corners of the streets with no occupation. They have no means of obtaining a living, as their lands are taken from them, and the missions for which they labored and which provided after a sort for many thousands of them, are abolished (as cited in Sugranes 1909:77).

The first party of U.S. immigrants arrived in Los Angeles in 1841, although surreptitious commerce had previously been conducted between Mexican California and residents of the United States and its territories. Included in this first wave of immigrants were William Workman and John Rowland, who soon became influential landowners. As the possibility of a takeover of California by the United States loomed large, the Mexican government increased the number of land grants in an effort to keep the land in the hands of upper-class *Californios* like the Domínguez, Lugo, and Sepúlveda families (Wilkman and Wilkman 2006:14–17). Governor Pío Pico and his predecessors made more than 600 rancho grants between 1833 and 1846, putting most of the state's lands into private ownership for the first time (Gumprecht 1999). Alta California Governor Pio Pico sold the San Fernando Valley to Eulogio de Celis for $14,000 around this time. Having been established as a pueblo, property within Los Angeles could not be dispersed by the governor, and this task instead fell under the city council's jurisdiction (Robinson 1979).

The United States took control of California after the Mexican–American War of 1846, and seized Monterey, San Francisco, San Diego, and Los Angeles (then the state capital) with little resistance. Local unrest soon bubbled to the surface, and Los Angeles slipped from U.S. control in 1847. Hostilities officially ended with the signing of the Treaty of Guadalupe Hidalgo in 1848, in which the United States agreed to pay Mexico $15 million for the conquered territory, which included California, Nevada, and Utah, and parts of Colorado, Arizona, New Mexico, and Wyoming. The conquered territory represented nearly half of Mexico's pre-1846 holdings. California joined the United States in 1850 as the 31st state (Wilkman and Wilkman 2006:15).

The discovery of gold in northern California led to an enormous influx of American citizens in the 1850s and 1860s, and these settlers rapidly displaced the old rancho families. In 1873, the U.S. government confirmed legal title to old Rancho ex-Mission San Fernando at 116,858.43 acres, the largest private land parcel in California. The Southern Pacific Railroad extended its line from San Francisco to Los Angeles in 1876, passing through the San Fernando Valley thanks to a new tunnel through Newhall Pass. Newcomers continued to pour into Los Angeles and the population nearly doubled between 1870 and 1880. The completion of the second transcontinental line, the Santa Fe, took place in 1886 causing a fare war which drove fares to an unprecedented low. More settlers continued to head west and the demand for real estate skyrocketed. The city's population rose from 11,000 in 1880 to 50,000 by 1890 (Meyer 1981:45).

At the dawn of the twentieth century, the pace of development within the Los Angeles Basin was stifled due to a limited water supply. Under the direction of city engineer William Mulholland, the Los Angeles Bureau of Water Works and Supply constructed the 238-mile long Los Angeles Aqueduct. This five year project, completed in 1913, employed the labor of over 5000 men and

brought millions of gallons of water into the San Fernando (now Van Norman) Reservoir. During the first three decades of the 20th century, more than 2 million people moved to Los Angeles County, transforming it from a largely agricultural region into a major metropolitan area (Gumprecht 1999).

The beginning of the 20th century saw the florescence of a uniquely suburban metropolis, where a vast network of residential communities overshadowed city centers, where the single-family home was valued over the high-rise, and where private space took precedence over public space (Hawthorne 2006). This landscape demanded an innovative transportation solution, and Los Angeles embraced automobiles and freeways like no other city had. The first homemade car puttered down city streets in 1897. Seven years later, the first grand theft auto was reported by Los Angeles Police (Wilkman and Wilkman 2006:50). Inexpensive automobiles gained popularity in the 1920s, soon creating tremendous congestion in the centers of cities and necessitating alternate transportation routes. The Arroyo Seco Parkway, connecting Los Angeles to Pasadena, was among the earliest "express auto highways" in the United States, opening in December 1940 (Balzar 2006). Dozens of freeways were constructed in the post-World War II years, radically altering the character of Los Angeles by simultaneously dividing local neighborhoods and connecting outlying communities.

During the first three decades of the 20th century, more than two million people moved to Los Angeles County, transforming it from a largely agricultural region into a major metropolitan area. By 1945, Los Angeles had undertaken 95 annexations, expanding from a 28-square-mile agrarian pueblo into a densely populated city covering more than 450 square miles (Robinson 1979:245).

History of the Project Area

San Fernando Valley

Mission *San Fernando Rey de España* was founded by Fermín Francisco de Lasuén, Junipero Serra's successor, in 1797. The mission was established midway between San Gabriel and San Buenaventura missions. The placement of Mission San Fernando, and missions in Alta California in general, was far from incidental since Franciscans carefully selected spaces with ample room for agriculture, access to water, and nearby sizeable Native American populations (Gentilcore 1961), which were needed in order to first erect the mission and second, to maintain an eventual mission system.

Under the direction of Father Francisco Dumetz and Father Juan Cortés, Native Americans built an adobe church, a storeroom, a weaving room, and a granary within one year of the mission's founding. Larger churches to accommodate the increasing numbers of Native Americans were built in 1800 and 1806 (MacMillan 1996). Construction efforts were not simply large scale, but also scaled down in the quotidian production activities at Mission San Fernando. Native Americans produced shoes and saddles from the extensive mission cattle. Rawhides were also used in the architectural construction of the mission as they were used to hold boards together. Native Americans also produced cloth, brick, tile, soap, olive oil, and wine. The Mission also had a blacksmith shop where Natives fashioned iron tools and plows (MacMillan 1996). The

new work schedules at Mission San Fernando undoubtedly contrasted to how time was perceived and made use of by the Gabrielinos and Chumash before Spanish contact. MacMillan (1996) notes that many Native Americans at Mission San Fernando rebelled by refusing to work or by working slow. It was also common for Native Americans to flee from the missions.

Native Americans at Mission San Fernando also produced art. The fathers at Mission San Fernando selected certain Native individuals to paint murals and decorate doorways and windows with designs (Phillips 1976). The paintings have been dated to 1806-07 and have been attributed to Juan Antonio. According to Mission San Fernando records, a Juan Antonio was baptized at the mission in 1798. Phillips (1976) deduced that Juan Antonio was unlikely a child when he was baptized in 1798 since it was improbable that mission officials would delegate such an artistic endeavor to a child. Juan Antonio must have entered the mission system at a later age and therefore with memories, understandings, and practices of a pre-contact Native American ways of life (Phillips 1976).

The San Fernando Valley mission life, in particular, was not immediately affected in 1822 when New Spain gained its independence from Spain. In 1822, there were 1,001 indigenous individuals living within the mission. Native Americans continued agricultural work and cultivated wheat, barley, corn, beans, and peas. They also tended to their fruit trees, cattle, horses, and sheep, and vineyards (Robinson 1942). In 1834, though, the *desecularization mission* of post-Independence Mexico reached the San Fernando Mission (Robinson 1942). Secularization brought about a progressive deterioration at Mission San Fernando. Annual loses in farming were recorded and the Indigenous population also increasingly drifted away from the mission center (Robinson 1942, 1963). With the decline of mission life, the physical mission itself, the symbol of centrality, also dissolved. Indians disbanded and mission celebrations broke down.

The new republic was characterized by chaotic rule. This characterization did not circumvent Alta California and added to the post-Mexican independence social cataclysm. In California, the disorder was witnessed in the dozen governors that ruled in the 26 years following independence and in the several uprisings that took place. Two of these rebellions took place near the Cahuenga Pass (Link 1991). In 1831, Jose Carillo and Abel Stearns battled the governor, Manuel Victoria, near the pass. Soon after the skirmish, Victoria resigned. In 1845, then Governor Manuel Micheltorena was met by a band of 284 rebels led by Juan Bautista Alvarado and Jose Castro. Peace was negotiated and again, a governor resigned from office. Micheltorena was followed by Pio Pico, the last governor under Mexican rule (Link 1991).

Amid the rebellions, gold was discovered in 1842, north of the ex-Mission San Fernando in Placerita Canyon. The discovery of gold prompted the migration of many prospectors who worked the canyon for several years and yielded six to eight thousand dollars each year (Robinson 1942).

The Mexican-American war was yet another circumstance that added to the San Fernando Valley's early 19th century turmoil. In 1846, the Mexican government authorized Pio Pico to take any steps necessary to protect Alta California from American invasion. Consequently, Pico

sold the greater part of what was referred to as "*Rancho Ex-Mision de San Fernando*" in 1846 for $14,000. In addition to payment, de Celis agreed to tend to the aging Native Americans on his newly acquired land and respective their agricultural autonomy. More than 116,000 acres were sold to a native of Spain, Eulogio de Celis. With the exception of Rancho Encino, Rancho El Escorpion, and a few hundred acres around the mission, de Celis nearly purchased the entire valley. This sale effectively marked the valley's transition to private ownership.

The Mexican-American war terminated in Alta California with the Treaty of Cahuenga. The agreement was signed in the San Fernando Valley on January 13, 1847. Andres Pico and John C. Fremont, along with five men from each side, signed the treaty.

In 1852, de Celis' filed a claim with the Board of Land Commission, a board specifically created by Congress to investigate Spanish and Mexican land titles in their newly acquired territories. The divergent Mexican and American legal as well as social practices often clashed in these investigations. These proceedings were also stagnant processes. For example, although de Celis' proprietary rights were validated by the Board after his appeal (Link 1991), it was not until 1873 that the United States District Court upheld the Board's findings (Robinson 1942).

de Celis, though, returned to Spain in 1853. His lessee (and later part owner), Andres Pico, remained at Rancho Ex-Mission of San Fernando and occupied the former mission buildings (Plate 1). In 1862, Andres Pico transferred his interests in the San Fernando Rancho to his brother, Pio. On July 2, 1869, Pio Pico once again sold the land. This time, however, the sale excluded certain areas such as 1,000 acres near the mission. Pico in turn used the money to build a hotel in Los Angeles which stands today, the Pico House. The sale was made to the San Fernando Farm Homestead which was headed by Isaac Lankershim and I.N. Van Nuys. The Association fought the heirs of Eulogio de Celis in court and in 1871, the District Court granted the Association full title to the southern portion of the valley. Under the administration of Lankershim and Van Nuys, the southern portion of the valley focused on wheat farming.

The northern portion was bought by George K. Porter and Charles Maclay from Eulogio de Celis' son in 1874. Also in 1874, Maclay registered the city of San Fernando with the County Recorder in Los Angeles. He presented a map depicting streets, blocks, and several thousand twenty-five foot lots. The Southern Pacific Railroad extended from Los Angeles to the new city and essentially helped colonize it. The Southern Pacific offered passengers from Los Angeles to San Fernando half-rate if they traveled with the intention to purchase lands (Keffer 1934; Robinson 1942). The novelty of a new city created a tourist attraction. Having a leisurely lunch at the old mission (Robinson 1942) likely aided in constructing a tourist attraction as feelings of charm, fantasy and exoticism were created by the aged mission (Plate 2). Affective qualities were also likely drawn from the new city's comparison to the clamor of Los Angeles. San Fernando, its mission and its quiet and calm, represented a time and space gone by. San Fernando was thus packaged and consumed at $10-$25 for each town lot or $5-$40 an acre for farming lands (Robinson 1942).

Plate 1. Refurbished living room in Andres Pico House (San Fernando Valley Historical Society).

Plate 2. "San Fernando Mission around 1900" (Oviatt Digital Collection).

However, the San Fernando Valley was not simply a romanticized, remote oasis. In addition to having Los Angeles readily accessible in 1874 through the Southern Pacific Railroad line, in just 2 short years the San Fernando Valley was connected to San Francisco. With Chinese men as the primary labor, the San Fernando Tunnel was completed in a near 16 month construction feat 1876 (Robinson 1942, 1961).

In addition, the valley experienced a real estate boom from 1887-88 and its immense fertile lands lured residents and developers. The Lankershim Ranch Land and Water Company purchased the east 1,200 acres of the southern half of the Rancho Ex-Mission of San Fernando from the Los Angeles Farm and Milling Company (formerly known as the San Fernando Homestead Association mentioned above). These acres were subdivided by the company in ten to forty-acre parcels that sold for $5 to $150 each. In the northern half of the valley, land was also purchased for subdivision, and once again the San Fernando Valley was packaged and sold on the real estate market as a fertile agriculture endeavor. This agronomic promise was also a reality, however. The wheat producing business that was pioneered by Lankershim and Van Nuys in the early 1870s had become a production machine by the late 1800s. Flour milling was supplemented to wheat farming and in 1888; 510,000 bushels of wheat were produced and milled by the Los Angeles Farm and Milling Company (Robinson 1961).

Another critical moment in the valley's history came in 1913 when the irrigation plan proposed by Los Angeles mayor, Fred Eaton, and Los Angeles water department engineer, William Mullholand, took its material form. The Los Angeles Aqueduct brought water from the Owens Valley in the High Sierra to Los Angeles. In order to take advantage of the water supply for the dry farming area, the various valley communities agreed to be annexed by Los Angeles at different times from 1915 to 1923 (Robinson 1963).

The eastern most segment of the project area lies in the vicinity of two historic resources, Pierce College and the Southern Pacific Railroad. Today, Los Angeles Pierce College is a two-year public college that is among the nine institutes of the Los Angeles Community College District. However, the genesis of Pierce College coincides with the importance of Los Angeles as the major agricultural producing county in the nation up until the mid-20th century.

The Clarence W. Pierce School of Agricultural was founded in 1947 and constructed on lands purchased by the L.A. City School District (present day L.A.U.S.D.). It was named after Clarence W. Pierce, M.D. and initially focused on agriculture and animal husbandry (Plate 3). In 1947, it served an all-male student body. The original goals of the institution were: 1) Educate future farmers and ranchers, veterinarians, veterinary technicians, florists, equestrians, horticulturists and others involved with our vast industry; 2) Educate "city folk" on where their food and fiber comes from; 3) Prepare students to transfer to a four year institution or graduate school (Pierce College, Department of Agriculture and Natural Resources).

Plate 3. Horse Show Participant Pierce College 1949 (Los Angeles Public Library Images).

Although Pierce College's academic agenda has amplified since its beginnings, it continues to offer training in agricultural and animal economics. The Pierce College campus includes a 226-acre farm, an equestrian center, as well as other recently facilities that reproduce the institution's initial educational goals. In addition, Pierce College hosts two yearly festivals that align activities to animals and agriculture, the Farmwalk and Harvest Festival (Pierce College official website).

The Pierce College campus also contains several historic buildings that date back to the school's foundation in 1947. The Horticulture Building, for example, was among the first buildings erected in 1947. The older constructions that date to the late 1940s were constructed in a Mediterranean style. However, the majority of the historic Pierce College construction phase dates to the mid-1950s through the 1960s (Supernowicz, Dana 2009).

A segment of the Southern Pacific Railroad also overlaps with the project area, but currently the Metro Silver Line occupies its space. The Metro Silver Line began its service in 2009 with the aim of joining the South Bay and San Gabriel Valley to downtown Los Angeles. From the survey conducted as part of this study, it appeared that the Metro Silver annexed the precise historic railroad path. This perhaps suggests that although the form of transportation became obsolete, the historic routes that remain important and functional.

Another segment of the project begins at the existing City of Burbank pipeline, cuts through sections of North Hollywood, and ends at North Hollywood High School. In 1890 the town Toluca was founded in the San Fernando Valley (Hatheway 1981). The town changed its name

to Lankershim and by 1927; the town decidedly became North Hollywood (Westec Services, Inc. 1983). In 1913, community members voted in favor of annexation by Los Angeles in order to benefit from the water supply from the newly developed Owens Aqueduct (Gust and Puckett 2004). The dry region's direct access to water impelled its rapid population of North Hollywood and the Valley in general.

North Hollywood High School (Plate 4), located at 5231 Colfax Avenue., was originally named Lankershim High School and built in 1927. The construction project was a half million dollar project that had a dual aim of pedagogy and attracting new residents (Link1991). In comparison to other cities in the San Fernando Valley, North Hollywood developed rapidly. It was the first of its valley counterparts to erect a traffic light and in 1940 North Hollywood led in number of building permits. WWII, in particular propelled North Hollywood's physical and political development. North Hollywood became an important center for the war industry and defense plants proliferated in the area (Link 1991).

Plate 4. Lankershim High School in 1927 (www.nhhs.net/historical_fotoz.jsp).

ARCHIVAL RESEARCH

Archival research for this project was conducted in May 2012, at the SCCIC housed at California State University, Fullerton. The research focused on the identification of previously recorded cultural resources within the Project Area, as well as within a 0.25-mile radius of the Project Area (Study Area). The archival research included review of previously recorded archaeological site records and reports, historic site and property inventories and historic maps including Sanborn Fire Insurance Maps. Inventories of the National Register of Historic Places (NRHP), the California Register of Historical Resources (CRHR), the California State Historic Resources Inventory (HRI), California Historical Landmarks and Points of Interest were also reviewed to identify cultural resources within both the Project and Study Areas.

ARCHIVAL RESEARCH AND PREVIOUS STUDIES

Previous Cultural Resources Investigation Reports

The records search revealed that a total of 67 cultural resource investigations were previously conducted within 0.25-mile of the project area (Table 1). These cultural resource investigations include: 15 cultural resources assessments, 14 records search and site visit results, seven surveys, seven Phase I reports, four records search results, two studies, two environmental assessments, three Environmental Statement and/or Environmental Impact Reports, one report regarding a zone change, one evaluation report of dams in Los Angeles County, two cultural resources inventory and/or evaluation reports, one report pertaining to Route 170, a report on the expansion of Reseda High School, one cultural resources overview and architectural evaluation report, one report on improvement to Caltrans property, one report on the Los Angeles Metro Red Line, one monitoring report, one architectural assessment, one report on the relocation of a building, and one Determination of Eligibility report. Less than 25 percent of the project area has been previously surveyed and/or investigated.

Table 1. Previous Surveys Conducted within 0.25-mile of the Project Area

Author	Report (LA-)	Description	Date
Anonymous	1578	Technical Report Archaeological Resources Los Angeles Rapid Rail Transit Project Draft Environmental Impact Statement and Environmental Impact Report.	1983
Anonymous	2903	Draft Environmental Assessment Tillman Water Reclamation Plant Flood Protection Project.	1990
Anonymous	2908	Draft Environmental Assessment Tillman Reclamation Plant Flood Protection Project.	1990
Anonymous	3496	Draft Environmental Impact Report Transit Corridor Specific Plan Park Mile Specific Plan Amendments	N.D.

Table 1. (continued)

Author	Report (LA-)	Description	Date
Anonymous	3720	Historic Property Survey Havenhurst Avenue-Between Sherman Way and Victory Boulevard W.o.21263.	N.D.
Anonymous	3762	Historical Property Survey Saticoy Street Between Sepulveda Boulevard and Woodley Avenue.	1977
Anonymous	3763	Historic Property Survey Hazeltine Avenue - Vanowen Street to Magnolia Boulevard.	1977
Anonymous	3789	Phase 1 Archaeological Survey/class III Inventory, San Fernando Valley East-West Transportation Corridor Study Area, Los Angeles, California.	1996
Anonymous	10507	Technical Report - Historical/Architectural Resources - Los Angeles Rail Rapid Transit Project "Metro Rail" Draft Environmental Impact Statement and Environmental Impact Report	1983
Arrington, Cindy and Nancy Sikes	8255	Cultural Resources Final Report of Monitoring and Findings for the Qwest Network Construction Project State of California: Volumes I and II	2006
Baker, Cindy and Mary L. Maniery	8898	Cultural Resource Inventory and Evaluation of United States Army Reserve 63d Regional Readiness Command Facilities.	2007
Billat, Lorna	9358	Vanowen/CA-6393B 7304 Varna Ave, Los Angeles, CA.	2005
Billat, Scott	7144	Stonehenge Pierce/CA-7566a Telecommunications Facility, Los Angeles Community Pierce College 6201 Winnetka Avenue, Woodland Hills, California.	2004
Bonner, Wayne	10926	Cultural Resources Records Search and Site Visit Results for T-Mobile USA Candidate SV12455-A (Reseda Tarzana), 6360 Reseda Boulevard, Reseda, Los Angeles County, California.	2011
Bonner, Wayne H.	7801	Cultural Resources Records Search Results and Site Visit for Cingular Wireless Site NI-047-02 (sawyer Petroleum), 14117 Aetna Street, Van Nuys, Los Angeles County, California.	2005
Bonner, Wayne H.	7803	Cultural Resources Records Search Results and Site Visit for T-mobile Candidate Sv00588 (new Horizons), 15725 Parthenia Street, North Hills, Los Angeles County, California.	2006
Bonner, Wayne H.	7812	Cultural Resource Records Search and Site Visit Results for Cingular Telecommunications Facility Candidate La-698-01 (nl-074-01) Karsten Imports, 55338 Fulton Avenue, Van Nuys, Los Angeles County, California.	2005
Bonner, Wayne H.	8051	Cultural Resources Records Search Results and Site Visit for Cingular Wireless Candidate NI-135-01 (Canoga Park) 6543 North Corbin Avenue, Woodland Hills, Los Angeles County, California.	2005

Table 1. (continued)

Author	Report (LA-)	Description	Date
Bonner, Wayne H.	8876	Cultural Resources Records Search and Site Visit Results for Royal Street Communications, Llc Candidate La0061b (Burbank Blvd. -Nextel Palm), 13222 Burbank Boulevard, Sherman Oaks, Los Angeles County, California.	2006
Bonner, Wayne H.	9097	Cultural Resources Records Search Results and Site Visit for Cingular Wireless NI-073-01 (sbc-magnolia), 11272 Magnolia Boulevard, North Hollywood, Los Angeles County, California.	2005
Bonner, Wayne H.	9307	Cultural Resources Records Search and Site Visit Results for T-Mobile Candidate SV01484F® (13709 Burbank Building), 13709 Burbank Boulevard, Van Nuys, Los Angeles County, California.	2008
Bonner, Wayne H.	9312	Cultural Resources Records Search and Site Visit Results for T-Mobile Candidate SV01484F (13709 Burbank Building), 13709 Burbank Boulevard, Van Nuys, Los Angeles County, California.	2008
Bonner, Wayne H.	9598	Cultural Resources Records Search and Site Visit Results for T-Mobile Candidate SV00614J (15020 Oxnard Monopole), 15020 Oxnard St., Van Nuys, Los Angeles County, California.	2008
Bonner, Wayne H. and Arabesque Said	10255	Cultural Resources Records Search and Site Visit Results for T-Mobile USA Candidate SV00118A (Hydra Building), 8201 Woodley Avenue, Van Nuys, Los Angeles County, California.	2010
Bonner, Wayne H. and Kathleen A. Crawford	9484	Cultural Resources Records Search and Site Visit Results for T-Mobile, USA Candidate SV1178D (Jaclyn Rooftop), 4907 Lankershim Boulevard, North Hollywood, Los Angeles County, California.	2008
Bonner, Wayne H. and Loupe, Alynne	8108	Cultural Resource Records Search and Site Visit Results for T-mobile Telecommunications Facility Candidate Sv00559f (Johnny's Auto), 4865 Lankershim Boulevard, North Hollywood, Los Angeles County, California.	2006
Bonner, Wayne, Sarah Williams, and Kathleen Crawford	10663	Cultural Resources Records Search, Site Visit Results, and Direct APE Historic Architectural Assessment for Clearwire Candidate CA-LOS0061B (Toluca Towers), 4660 Cahuenga Boulevard, Toluca Lake, Los Angeles County, California.	2010
Chattel, Robert Jay	10177	Relocation of Phil's Diner, Los Angeles (North Hollywood), CA.	2008
Crawford, Kathleen	9454	Direct APE Historic Architectural Assessment for T-Mobile Candidate SV01484F (13709 Burbank Building), 13709 Burbank Blvd., Van Nuys, Los Angeles County, CA	2008

Table 1. (continued)

Author	Report (LA-)	Description	Date
Dames and Moore	160	Phase 1 Cultural Resources Survey Fiber Optic Cable Project Burbank to Santa Barbara, California for Us Sprint Communications Company	1988
Demcak, Carol R.	6778	Report of Cultural Resources Records Search for 6639 Darby Avenue, City of Reseda, Los Angeles County, California.	2001
Duke, Curt	5594	Cultural Resource assessment for Pacific Bell Mobile Services Facility La 118-01, in the County of Los Angeles, California.	2000
Duke, Curt	5599	Cultural Resource Assessment for Pacific Bell Mobile Services Facility La 698-02, County of Los Angeles, California.	1999
Duke, Curt	5606	Cultural Resource Assessment for At&t Wireless Services Facility Number C925.1 County of Los Angeles, California.	2000
Duke, Curt	6481	Cultural Resource Assessment Cingular Wireless Facility No. Vy 023-01 Los Angeles County, California.	2001
Duke, Curt	6755	Cultural Resource Assessment for the At&t Wireless Services Facility Number R278, County of Los Angeles, California.	2000
Duke, Curt	6759	Cultural Resource Assessment for Pacific Bell Mobile Services Facility La 968-01, County of Los Angeles, California.	2000
Fielding F. Glenn	68	Zone Change From Ra-1 to Rd 1.5 for Development of 230 2-story Apartments at 6545 Avenue, Reseda.	1974
Gust, Sherri and Heather Puckett	8251	Los Angeles Metro Red Line Project, Segments 2 and 3 Archaeological Resources Impact Mitigation Program Final Report of Findings	2004
Hatheway, Roger G.	10180	Determination of Eligibility Report, North Hollywood Redevelopment Project.	1981
Horne, Melinda C.	6007	Archaeological Survey Report Los Angeles Pierce College Los Angeles County, California.	2002
Horne, Melinda C.	7784	Archaeological Survey Report Los Angeles Valley College Los Angeles County, California.	2003
Jertberg, Patricia R.	3902	Cultural Resource Record Search and Archival Research Report for a Single Parcel Located on Cedros Avenue Between Oxnard and Aetna Street, City of Van Nuys, Los Angeles County, California.	1998
Killeen, John J.	8194	Sepulveda Basin Sports Complex Project, Records and Literature Search and Archaeological Survey.	2006
Kyle, Carolyn E.	7277	Cultural Resource Assessment for Cingular Wireless Facility Vy234-03 City of Woodland Hills Los Angeles County, California.	2002
Lapin, Phillippe	4854	Cultural Resource Assessment for Pacific Bell Wireless Facility La 118-03, County of Los Angeles, California.	2000

Table 1. (continued)

Author	Report (LA-)	Description	Date
Martz, Patricia	384	Description and Evaluation of the cultural Resources Within Haines Debris Basin, Hadsen Dam, Lopez Dam, and Selpulveda Dam, Los Angeles County.	1977
Mason, Roger D. and Mark L. Peterson	7776	Cultural Resources Records Survey Report for the City Magnolia Trunk Line Project City of Los Angeles Department of Water and Power, Los Angeles County, California.	2002
Mason, Roger D. and Patricia A. Peterson	7777	Cultural Resources Records Search and Literature Review Report for the City Trunk Line South Project City of Los Angeles Department of Water and Power Los Angeles County, California	2002
McKenna, Jeanette A.	8103	A Cultural Resources Overview and Architectural Evaluation of the Citibank Building on Lankershim Blvd., North Hollywood, Los Angeles County, California.	2006
McKenna, Jeanette A.	8254	Results of a Phase 1 Cultural Resources Investigation of the Proposed Los Angeles Department of Water and Power River Supply Conduit, Los Angeles County , California.	2004
McKenna, Jeanette A.	10756	A Cultural Resources Overview and Preliminary Assessment of the Pacoima/Panorama City Redevelopment Plan Amendment/Expansion Project Area, Los Angeles County, California	2010
McLean, Deborah K.	4022	Archaeological Assessment for Pacific Bell Mobile Services Telecommunications Facility La 694-01, 11605 Magnolia Boulevard, North Hollywood, City and County of Los Angeles, California.	1998
McLean, Deborah K.	4318	Cultural Resource Assessment for Pacific Bell Mobile Services Telecommunications Facility La 694-09, 11272 Magnolia Boulevard, North Hollywood, City and County of Los Angeles, California.	1999
Neuenschwander, Neal J.	3521	Cultural Resource Assessment of the Proposed Expansion of National Guard Facilities at Van Nuys, Los Angeles County, California.	1996
Peak and Associates, Inc.	2645	Class 3 Cultural Resource Assessment of the Proposed Carpinteria and Southern Reroutes, Santa Barbara, Ventura, and Los Angeles Counties, California.	1991
Smith, Philomene C.	4858	Nasr Cold Plane Existing Pavement on Various On/off-ramps on Route 170 and One on Ramp Route 5 with Rubberized Asphalt Concrete	2000
Stickel, Gary E.	3486	A Cultural Resources Inventory for the East Valley Water Reclamation Project.	1994
Supernowicz, Dana	10616	Cultural Resources Study of the Pierce College Project, AT&T Site No. LAR278A, 6201 N. Winnetka Avenue, Woodland Hills, Los Angeles County, California 91371.	2009

Table 1. (continued)

Author	Report (LA-)	Description	Date
Sylvia, Barbara	7840	Negative Archaeological Survey Report for the Beatification and Modernization along Route 134 From the 134/170 Separation to Shoup Ave Uc, and Along Route 101/170 Separation to Concord Street Uc.	2001
Sylvia, Barbara	8247	The Project Proposes to Rehabilitate the Pavement at the Caltrans Shop 7 Equipment Service Center in North Hollywood to Replace the Existing Fence with a Security Fence Along the Perimeter of the Facility and to Install High Mast Lighting	2000
Sylvia, Barbara	10208	Negative Archaeological Survey Report: Metal Beam Guardrail (MBGR) Along Sections of Route 101 From Route 134 to the Ventura County Line.	2001
Unknown	6142	Expansion of the Reseda High School Facilities Located at 18230 Kittridge Street in the City of Los Angeles.	2002
Whitley, David S. and Joseph M. Simon	7835	Phase I Archaeological Survey/class III Inventory, San Fernando Valley East-west Transit Corridor, Brt Alternative Study Area, Los Angeles, California.	2000
Wlodarski, Robert J.	4475	A Phase I Archaeological Study: a Proposed Senior Housing Project Located at 6639 Darby Avenue, City of Reseda, Los Angeles County, California	1999
Wlodarski, Robert J.	7782	A Phase 1 Archaeological Study for the Proposed Sherman Way and 13741-13747 Cantlay Street City of Los Angeles, Los Angeles County, California.	2005
Wlodarski, Robert J.	10618	Record Search Results for the Proposed Bechtel Wireless Telecommunications Site LA0313/VN0197 (Horizon), located at 15725 Parthenia Street, North Hills, California.	2009

Previously Recorded Cultural Resources Site Records

The records search also indicated that a total of 13 cultural resources have been previously recorded within 0.25-mile of the project area (Table 2). None of these resources occur within the project area. Of the 13 previously recorded resources, 11 of these resources are comprised of commercial, educational, industrial, military, or residential buildings (P-19-167303, P-19-170966, P-19-170967, P-19-173061, P-19-175261, P-19-186585, P-19-186642, P-19-187950, P-19-188173, P-19-188464, and P-19-188848). One resource (P-19-3306) was a historic trash dump. The only prehistoric resource documented was an isolated sandstone bowl (P-19-100281) found during construction monitoring activities. Seven of the 13 resources have been evaluated for federal, state, and/or local historic listings. Three resources (P-19-186642, P-19-188464, and P-19-188848) were found to be ineligible for federal, state, or local historic listings. P-188464 was considered ineligible for the National Register, but was not evaluated for state or local significance.

Table 2. Previously Recorded Archaeological Sites within 0.25-Mile of the Project Area

Primary Number (P-19-)	Site Type	Time Period	Eligibility
3306	Trash Dump	Historic	
100281	Sandstone bowl	Prehistoric	
167303	Library	Historic	
170966	Theater commercial	1926	
170967	Commercial building	1923	eligible for NR determined by Section 106 process, listed in CR, needs re-evaluation
173061	Commercial building	1920	appears eligible for NR or CR
175261	Education Building	1926	eligible for NR as contributor of a district determined by Section 106 process, listed in CR
186585	Railroad Depot	1896-1950s	eligible for NR determined by section 106 process, listed in CR
186642	Commercial Structure	Historic	ineligible
187950	Military Property	1943, 1959	
188173	Industrial building	1954	
188464	Commercial building	1936	ineligible determined by Section 106 process, not evaluated for CR or local listings
188848	Apartment Building	1962	found ineligible for NR, CR, or local listings

California Historic Landmarks

Two California Historic Landmarks were identified as points of historic interest and are located in the project vicinity, but do not overlap with the project area. One is the 20th Century Fox Art Environments Old Trappers Lodge (CHL 939). Second historic monument is the North Hollywood Branch Library at 5211 N. Tujunga Avenue in the city of North Hollywood (P-19-167303; NR-8700108).

Los Angeles Cultural Monuments

A total of seven cultural monuments have been identified within a 0.25-mile radius of the project area (Table 3). Phil's Diner, El Portal Theater, and Amelia Earhart Branch Library were also documented in the HRI, site records, and/or California Historic Landmarks

Table 3. Los Angeles Historic Cultural Monuments within 0.25-Mile of the Project Area

LAHCM #	Name
232	Department of Water and Power Building
2451	Phil's Diner
302	Amelia Earhart Branch Library
573	El Portal Theater
2179	Toluca Southern Pacific Depot
2359	Amelia Earhart Branch Library
2518	Masonic Temple

NATIVE AMERICAN CONTACT PROGRAM

As part of this investigation, a sacred lands file (SLF) search was requested from the Native American Heritage Commission (NAHC) of the project area and vicinity. A letter was prepared and mailed to the Native American Heritage Commission (NAHC) on May 11, 2012. The letter requested that a SLF check be conducted for the proposed project and that contact information be provided for Native American groups or individuals that may have concerns about cultural resources in the project site. The NAHC responded to the request in a letter dated May 15, 2012. The letter stated, "The Native American Heritage Commission (NAHC) conducted a Sacred Lands File search of the 'area of potential effect,' (APE) based on the USGS coordinates provided and Native American cultural resources were identified in the project area of potential effect (e.g. APE): you specified. There are Native American cultural resources in the APE and in close proximity to the APE. Also, please note; the NAHC Sacred Lands Inventory is not exhaustive and does not preclude the discovery of cultural resources during any project's groundbreaking activity." The letter also provided a list of Native American groups to contact for their interests in this proposed project.

Letters were mailed on May 21, 2012, to each group or individual provided on the contact list. A total of seven parties were indicated on the contact list including; Ron Andrade of the Los Angeles City/County Native American Indian Commission, Delia Dominguez of the Kitanemuk & Yowlumne Tejon Indians, Beverly Salazar Folkes, Randy Guzman-Folkes, John Tommy Rosas of the Tongva Ancestral Territorial Tribal Nation, Ronnie Salas of the Fernadeno Tataviam Band of Mission Indians, and John Valenzuela of the San Fernando Band of Mission Indians. Maps depicting the Project area and response forms were attached to each letter. Follow-up phone calls were made to each party on June 21, 2012. A total of two responses were received.

Mr. Randy Guzman-Folkes was contacted by phone and then he replied and provided additional information via email and letter attachment on June 21, 2012. Mr. Guzman-Folkes indicated that there are sites within the vicinity of the Project area and that cultural resources and Native American monitoring should be conducted for the project. In his email he stated that "I believe cultural resources monitoring is required on the San Fernando Valley Water Recycling Project." The attached letter included information regarding Mr. Guzman-Folkes company R. Indigenous Consultants Tribal Monitoring LLC, which provides consultation and monitoring.

Mr. Johntommy Rosas responded to the initial receipt of a contact letter via email on May 22, 2012. Mr. Rosas indicated that he would respond later after he reviewed the proposal and that, "I do have some serious concerns about the jurisdiction so this project has to be reviewed under NHPA, and we require that notice be legal under NHPA, there are many documented and undocumented sites there, we want to support legal water [re]cyling projects but this appears not to be legal now on process grounds." Mr. Rosas has not responded with further comments to-date.

PALEONTOLOGICAL RECORDS SEARCH

A paleontological records search was requested from the Los Angeles Natural History Museum on May 11, 2012 in order to determine the level of paleontological sensitivity within the project area. The request was accompanied by a project description and a map of the project area.

Results

A paleontological records search was conducted by Dr. Samuel McLeod, Vertebrate Paleontology Division of the Natural History Museum of Los Angeles County on June 26, 2012. The records check indicated that there is no known vertebrate fossil locality that lies within the proposed project area boundaries. However, there are fossil localities nearby from the same sedimentary deposits that occur in the proposed project areas.

North Hollywood Park Segment
The North Hollywood Park segment surface deposits consists of younger Quaternary Alluvium, derived primarily as fluvial deposits from the Central Branch of Tujunga Wash and probably from the Los Angeles River that flows to the south. Our closest vertebrate fossil localities from these deposits is LACM 6970, located along Lankershim Boulevard at Highway 134, that produced fossil specimens of camel, *Camelops hesternus,* bison, *Bison antiquus*, and ground sloth, *Glossotherium harlani*, at approximately 60 to 80 feet below grade excavated during the construction of the Metrorail Redline Universal City Tunnel.

Valley Plaza Park Segment
The surface deposits within the vicinity of the Valley Plaza Park segment consists entirely of younger Quaternary Alluvium, derived primarily as fluvial deposits from the Tujunga Wash that crosses the western portion or the Central Branch of the Tujunga Wash that crosses the eastern portion of this segment. There are no localities that lie within or adjacent to this segment.

Van Nuys Sherman Oaks Park Segment
Within the vicinity of the Van Nuys Sherman Oaks Park segment are surface deposits comprised entirely of younger Quaternary Alluvium, derived primarily as fluvial deposits from the Los Angeles River that is adjacent to the southern-most portion of this segment or from the Tujunga Wash that is adjacent to the eastern portion of the segment. Along the western portion of the segment, east of the Sepulveda Dam Recreation Area and north of the Ventura Freeway (Highway 101), lies locality LACM 3822, near Kester Avenue and Sepulveda Boulevard north

of Oxnard Street, that produced fossil specimens of extinct peccary, *Platygonus*, camel, *Camelops*, and bison, *Bison*, at depths between 75 to 100 feet below the surface. South of this locality, along Kester Avenue near Burbank Boulevard, lies LACM 6208, this produced fossil specimens of extinct bison, Bison, at a depth of 20 feet below the surface. Further south of this location is locality LACM 3263, near the intersection of Kester Avenue and Otsego Street, that produced fossil specimens of extinct horse, *Equus*, at a depth of 14 feet below the surface.

Reseda Park Segment and Pierce College Segment

Within the vicinity of the western terminus of the Pierce College segment, exists some exposures of the marine late Miocene Upper Modelo Formation (also known as the Monterey Formation), and may occur at depth within the area of this segment. Localities from the Upper Modelo Formation, LACM 3173, 5125, 5657, and 6021, occur south-southwest of the western terminus of the Pierce College segment. Locality LACM 3173, west of Mulholland Drive, produced fossil specimens of shearwater, *Puffinus*. Locality LACM 5125, near San Feliciano Drive in Woodland Hills, produced fossil specimens of lanternfish, *Myctophidae*. Locality LACM 5657, south of Mulholland Highway, produced a fossil specimen of baleen whale, *Mysticeti*. Locality LACM 6021, just north of Mulholland Drive and east of Canoga Avenue, produced a rare fossil specimen of leatherback turtle, *Psephophorus*.

Surface deposits within the vicinity of the Pierce College and Reseda Park segments consists of soil and younger Quaternary Alluvium, derived predominantly as fluvial deposits from the Los Angeles River that flows adjacent to and bisects the segments. Deposits found throughout the San Fernando Valley typically do not contain significant vertebrate fossils, at least in the uppermost layers, but older Quaternary deposits found at depth may contain significant fossil vertebrate remains. Locality LACM 1213 is the closest vertebrate fossil locality from older Quaternary deposits and is located south-southwest of the Pierce College and Reseda Park segments, off of Mulholland Highway south of Woodland Hills. This locality produced fossil specimens of horse, *Equus*, and ground sloth, *Paramylodon*. Locality LACM 5878, located south-southwest of the western terminus of the Pierce College segment, is off of Long Valley Road in Hidden Hills and produced a fossil mastodon skeleton, *Mammut*. To the north in the Santa Susana Pass, lies locality LACM 1406 which also produced fossil specimen of mastodon, *Mammut*.

VA Hospital Segment

The VA Hospital segment surface deposits consist entirely of younger Quaternary Alluvium, derived as a mixture of alluvial fan deposits from the Santa Susana Mountains to the northwest as well as fluvial deposits from the Bull Creek that flows to the west and the Pacoima Wash that flows to the east. The closest vertebrate fossil localities in the older Quaternary deposits occur at or near the Van Norman Reservoir, located north of the segment. These localities include LACM 3397 that produced fossil bison, *Bison*, at 75 feet below surface level, LACM 7152 that produced fossil mammoth, *Mammuthus*, and bison, *Bison*, in terrace deposits and LACM 1733 that produced fossil horse, *Equus*, at unknown depth. Further to the north-northwest and just east of Interstate 5 (I-5) and south of the Foothill Freeway (I-210), lies fossil locality LACM 5745, which produced fossil mastodon, *Mammut*, and horse, *Equus*, in fill dirt.

Historic Maps

Historic map research based on Sanborn Fire Insurance (Sanborn) maps and historic topographic maps was conducted in order to gain an understanding of the level of disturbance in the area as well as identify possible location of archaeological sensitivity along the various segments. This research yielded detail information on only two segments of the project, the North Hollywood Park segment and the Van Nuys Sherman Oaks Park segment. Detailed Sanborn map, and historic topographic map coverage for the Valley Plaza Park, Reseda Park, VA Hospital, and Pierce College segments were not available.

North Hollywood Park Segment

Sanborn maps from March 1927 depicted Magnolia Boulevard from Bakman Street to just east of Lankershim Boulevard as a 60 foot wide street, with an eight foot wide utility pipe running east-west along the southern border. On the north side of the street, an office, three single family dwellings, several small stores and one sizeable store on the northwestern corner were present. Two parking lots, the larger of the two at the northeastern corner of Lankershim and Magnolia, were also present. Further east passing Lankershim to Vineland, Magnolia's north side of the street was assembled with nine additional stores, an auto parking space, and nine single story dwellings (along with one single story room). In addition, The Valley Times and a "Little Theatre" were also present (LAPL 1927, N. Hollywood Distr. of Los Angeles City, Sheets 9 and 10).

In another portion of the 1927 map, the southern lateral of Magnolia, between Tujunga and Klump Avenues, was depicted. No single family dwellings were recorded in this sector, but offices that included The Pacific Telephone & Telegraph Co., stores, a restaurant and a parking garage occupied the area (LAPL 1927, N. Hollywood Distr. of Los Angeles City, Sheet 11). Also on the southern side, from Klump to Blakeslee Avenue (just east of Lankershim), the 1927 historic map shows three restaurants, two furniture stores as well as several other undefined stores, an auto sales lot, and a gas and oil shop (LAPL 1927, N. Hollywood Distr. of Los Angeles City, Sheet 12).

The block of Magnolia between Tujunga and Bakman listed majority businesses, such as stores and an auto repair shop, and only one single family dwelling on the southern side of the street. The northern boundary was less occupied, having only three businesses, two general stores and one large undertaking business at the northeastern corner of Bakman and Tujunga (LAPL 1927, N. Hollywood Distr. of Los Angeles City, Sheet 13). Just west, the blocks of Magnolia between Colfax Avenue and Westpark Dr. was recorded as primarily residential nearly 30 years later in 1955 (LAPL, Los Angeles, Vol. 41, Sheet 4126).

From Magnolia Boulevard, the North Hollywood Park segment then travels south on Vineland Avenue. A Sanborn map from 1946 illustrates the two blocks south of Magnolia to Otsego Street as majority stores and service shops such as auto repair and gas/oil. Three single family dwellings were recorded near the intersection of Vineland and Otsego. These depictions apply to the eastern side of Vineland. With the exception of St. David's church, the majority of the buildings were single family dwellings or apartment buildings (LAPL, N. Hollywood Distr. of Los Angeles City, Sheet 14).

Another project segment, Camarillo Street between Cahuenga Boulevard and Strohm Avenue was depicted in a 1955 Sanborn map. This section of the project area was entirely residential. Large single family dwellings with multiple structures were the only architectural type. The homes were one story, though one was two stories and included a swimming pool (Los Angeles, Cal. Vol. 41, 4106). In this same year, the historic map recorded North Hollywood High School at the intersection of Magnolia and Colfax Avenue (LAPL, Los Angeles, Cal. Vol. 41, 4148, North Hollywood District sheet 16).

Van Nuys Sherman Oaks Park Segment

The current streets within the vicinity of the Van Nuys Sherman Oaks Park segment include Burbank Boulevard, Van Nuys Boulevard, Oxnard Street, and Magnolia Boulevard.

In 1923, Sanborn maps indicate that Van Nuys was named Sherman Way and was 110 to 130 feet wide. Fields and orchards were recorded to the east of Oxnard between Van Nuys and Cedros. To the west of Oxnard in this vicinity was one organ factory between Van Nuys and Vesper (LAPL 1923, Van Nuys, Sheet 15). By 1926, one block south had been developed into a City Water Department facility and pipe storage yard (LAPL 1926, Van Nuys, Sheet 15). By 1938, the northern block was developed as Pacific Cabinet and Radio Co. and the Southern block was a San Fernando Valley Water and Power shop and storage yard (LAPL 1948, Van Nuys, Sheet 15). In 1923, the orchard on the southeastern corner extended west two city blocks to Cedros Avenue (Jan. 1923, Van Nuys, Sheet 15). The 1923 Sanborn map revealed an empty northern portion of Oxnard Street at Cedros Avenue, with only three single family dwellings erected in an area delineated by six lots (Jan. 1923, Van Nuys, Sheet 20).

In 1955, maps illustrated Oxnard, just west of Cedros Avenue, as entirely developed with businesses. These trades included electronics, woodworking, refrigeration, and cabinet shops (LAPL, Los Angeles, Vol. 42, Sheet 4244).

A 1955 Sanborn Map shows a mixture of homes and businesses that lined the western and eastern sides of Van Nuys between Hatteras Street and Burbank. For example, the southern half of the western side of Van Nuys was dedicated to used auto sales. The middle portion was characterized by four lots, with three single family dwellings in each lot. Auto-related industries, along with stores, lined the northern half of the western side of Van Nuys. The entire northern half of the eastern side of Van Nuys was occupied by "USED AUTO SALES" in 1955. The southern half was a conglomeration of businesses that included general stores, furniture stores, and offices (LAPL, Los Angeles, Vol. 42, Sheet 4236). The twelve dwellings mentioned above were likely the anomaly on this block of Van Nuys at the time.

Between Hatteras and Oxnard, the constructions on Van Nuys in 1955 were entirely businesses. The trades included funeral homes (a substantial one, Praisewater Funeral Home, was located on the western side), stores, offices, and auto sales (LAPL, Los Angeles, Vol. 42, Sheet 4237). Further south on Van Nuys to Clark Street, businesses also dominated the landscape. A 1955 Sanborn labeled these trades as general stores, furniture stores, and auto services/sales (LAPL, Los Angeles, Vol. 42, Sheet 4239).

SURVEY METHODS AND RESULTS

SURVEY METHODOLOGY

Cultural Resources Survey

While several previous archaeological surveys were conducted within the vicinity of the project area, less than 25 percent of the project area has been previously surveyed. An archaeological field survey of the project area was conducted by Linda Kry and Adela Amaral on June 26, 2012. As the entire project area is known to be paved, windshield survey was conducted within all the proposed segments associated with this project (see Figure 3). When areas of open ground were present for inspection, 10-meter interval transects were completed in order to investigate the project area vicinity for archaeological resources. The survey included identification of archaeological and built environment resources. While the proposed undertaking includes installation of water pipelines below the ground surface, the majority of the survey focused on the archaeological investigation. Built environment was only addressed in areas where the project intersects with structures which could be affected by the project if they were determined to be historic-in-age and possibly requiring evaluation and mitigation.

RESULTS

Project cultural resource specialists performed a windshield survey of the proposed project area on June 26, 2012. The survey area consisted of areas proposed for the expansion of existing recycled water pipeline network within the San Fernando Valley area of the City of Los Angeles. The proposed project area and survey area is broken down into six segments: North Hollywood Park, Valley Plaza Park, Van Nuys Sherman Oaks Park, Reseda Park, VA Hospital, and Pierce College (see Figure 3). The goals of the survey were to identify any previously recorded or previously unknown cultural resources within the survey area and to evaluate potential for any buried resources. All visible ground soil was heterogenous and noted in the archival records of previous investigations as disturbed as a result of landscaping and or development.

SURVEY OBSERVATIONS

North Hollywood Park Segment

The easternmost segment of the project area is the North Hollywood Park segment. This segment is comprised of residential, commercial and educational buildings as well as a park. The western terminus of the segment abuts North Hollywood High School to the south. Also encountered along this segment is the North Hollywood Park and according to historic aerials, the park was present as early as 1952 (Plate 15). Within the immediate vicinity of the North Hollywood Park is an overpass for SR 170 that is present along Magnolia Boulevard between Westpark Drive and Tujunga Avenue. Just west of Vineland Avenue along Magnolia Boulevard, is the presence of an arts district and along Camarillo Street between Vineland and Clybourn is a residential area.

Plate 5. North Hollywood Park of North Hollywood Park Segment; View towards East-Northeast.

Valley Plaza Park Segment

The Valley Plaza Park segment is located approximately one mile east of the Burbank-Glendale-Pasadena Airport and the easternmost portion of the segment crosses State Route (SR) 170 twice at two different locations. This segment is comprised of residential and commercial buildings and a park that runs alongside SR 170 to the west. At the westernmost portion of the main segment is the channelized Tujunga Wash that bisects Sherman Way, just east of Sunnyslope Avenue (Plate 12). Along Sherman Way between Whitsett Avenue and Laurel Canyon Boulevard is the presence of a modern bridge that crosses over SR 170 (Plate 13). An overpass for the SR 170 was encountered along Vanowen Street between Whitsett Avenue and Laurel Canyon Boulevard approximately 0.50-mile south of the Sherman Way bridge (Plate 14). No other cultural resources were observed along this segment.

Plate 6. Valley Plaza Segment with Channelized Tujunga Wash along Sherman Way, View towards Northwest.

Plate 7. Valley Plaza Segment Sherman Way Bridge Over Interstate 170 (I-170), View towards the West.

Plate 8. Valley Plaza Segment Vanowen Street Bridge Over I-170, View towards South-Southeast.

Van Nuys Sherman Oaks Park Segment

The Van Nuys Sherman Oaks Park segment is located less than 0.50-mile east of the Sepulveda Dam Recreational Park. The streets along the main segment and the two extensions are lined with residential and commercial buildings as well as recreational space. The Van Nuys Sherman Oaks War Memorial Park is located at the southernmost portion of the segment and is used for recreational purposes. Two more sections of the S.P.R.R. were encountered during the survey. The first section abuts the east side of Van Nuys Boulevard between Chandler Boulevard which, is immediately north of the right-of-way, and Weddington Street. Another section of the S.P.R.R. bisects Burbank Boulevard just east of Fulton Avenue. Once again, the railroad has been abandoned and converted into a bus route for public transportation purposes (Plate 11). No evidence of archaeological sites or built resources was observed during the survey of this segment.

Plate 9. Van Nuys Sherman Oaks Park Segment with Former Southern Pacific Railroad ROW, Current Metroline Busway, View towards Northwest.

Reseda Park Segment

The Reseda Park Segment terminates at the intersection of Victory Boulevard and Reseda Boulevard. The Reseda Park segment continues approximately 15,800 feet on Victory Boulevard and includes three extensions (Plate 7). The portion that runs along Victory Boulevard is bounded by residential, commercial, educational and recreational structures. Sepulveda Dam and Recreational Area is located south of the segment and has been noted in a previous investigation (LA-8194) as being extensively disturbed due to levee construction and over 20 years of sod farm operation (Plate 8). According to historic aerials, Reseda Park, located at 18411 Victory Boulevard, is present as early as 1952. The park is bisected by the channelized Los Angeles River and has largely remained the same in layout since the mid century. Another abandoned portion of the S.P.R.R. right-of-way was encountered during the survey of an extension that travels approximately 1,000 feet south on Balboa Boulevard from Victory Boulevard. Again, the former S.P.R.R. has been converted into a public commuter bus route with no visible remnants of railroad tracks (Plate 9). No evidence of archaeological sites or built resources was observed during the survey of this segment.

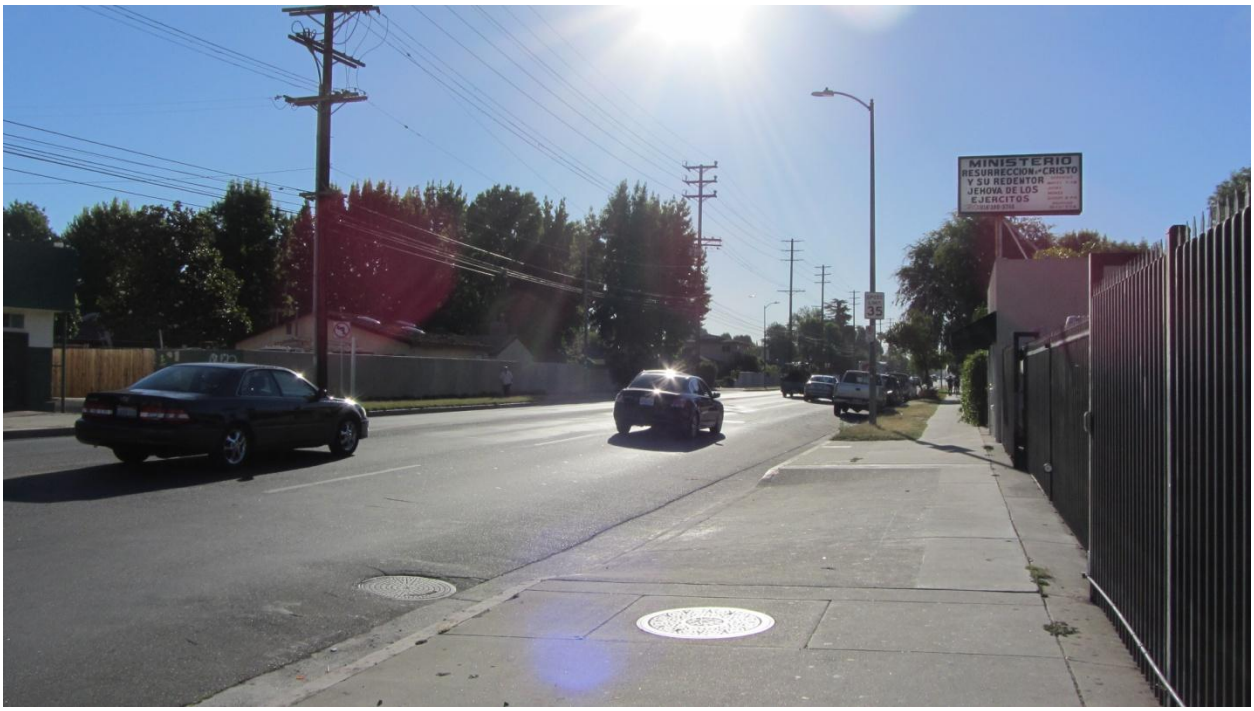

Plate 10. Northern Portion of Reseda Park Segment at the Intersection of Vanowen Street and Louise Avenue, View towards Northeast.

Plate 11. Reseda Park Segment Sepulveda Dam Recreation Area, View towards Northeast.

Plate 12. Reseda Park Segment with Former Southern Pacific Railroad ROW, Current Metroline Busway, View towards Northwest.

VA Hospital WRP

The VA Hospital segment is the northernmost section of the project area and consists of an approximately 7,300 foot alignment along Woodley Avenue with two extensions that would branch off of this main segment. Along the main portion of the segment, an active portion of the S.P.R.R. was encountered and remains in the same configuration as it was historically in the late 19th to early 20th century. This segment runs in a northwest-southeast direction and bisects Woodley Avenue between Roscoe Avenue and Raymer Street (Plate 10). In addition, the Van Nuys Airport, residential, commercial and industrial buildings are present along the main segment and the two associated extensions. No evidence of archaeological sites or built resources was observed during the survey of this segment.

Plate 13. Northern Portion of VA Hospital Segment; Overview of Haskell Avenue, View towards the South.

Pierce College Segment

The Pierce College segment is the westernmost segment of the proposed water recycling pipeline. This segment of the project area was surveyed from its western terminus positioned at the intersection of Victory Boulevard and Mason Avenue of Pierce College, located at 6201 Winnetka Avenue (Plate 5). The survey continued along Victory Boulevard until its termination point at the intersection of Reseda Boulevard and Victory Boulevard. This segment of the project area is developed with paved street surfaces. Along this segment are residential areas, Pierce College and the abandoned Southern Pacific Railroad (S.P.R.R.) right-of-way (ROW) that has been converted into a public commuter bus route or "busway" for the Metroline (Plate 6). No evidence of archaeological sites or built resources was observed during the survey of this segment.

Plate 14. Pierce College Segment at the Intersection of Victory Boulevard and Mason Avenue, View towards Northwest.

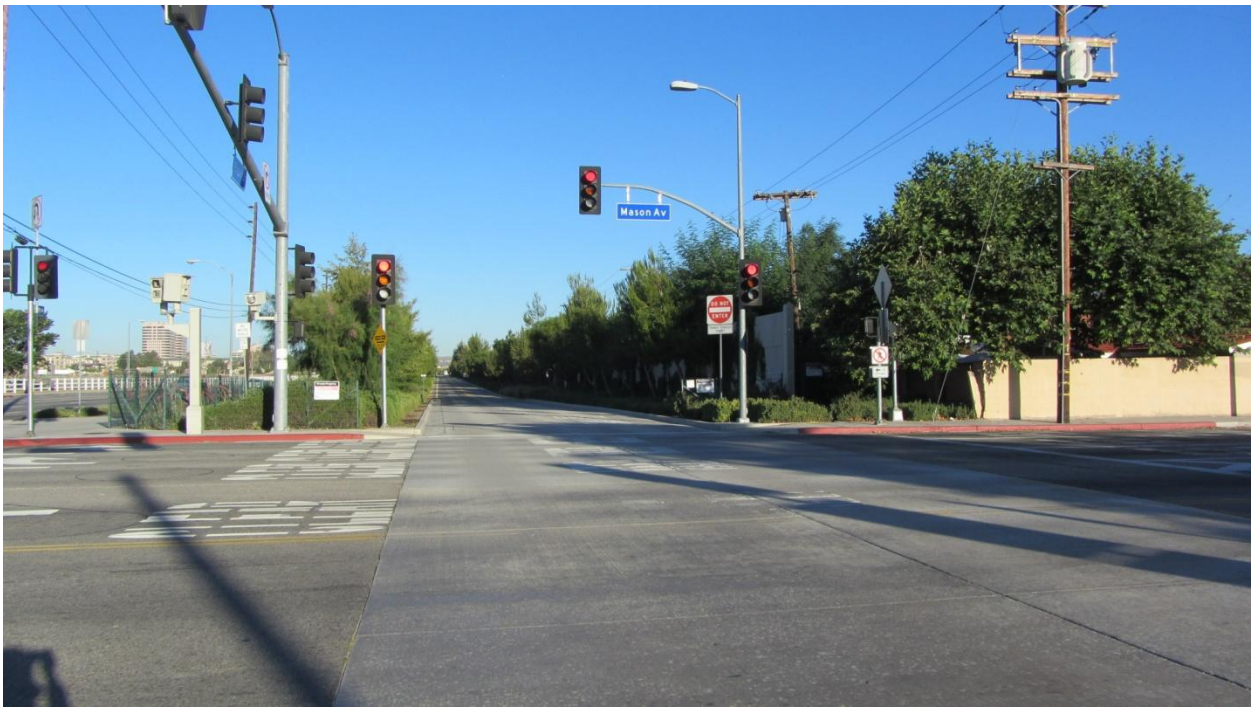

Plate 15. Pierce College Segment, Former Southern Pacific Railroad ROW, Current Metroline Busway, View towards Northwest.

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SUMMARY

The survey of the study area did not result in the identification of any previously unknown archaeological resources. However the project will intersect with two resources which are historic in age, including the Tujunga Wash Channel and the former S.P.R.R. ROW. As the project will not result in direct impacts to these resources they were not evaluated as part of this project, however work in the vicinity of these resources may encounter previously unknown buried resources.

The Reseda Park, Valley Plaza Park, and the North Hollywood Park segments all cross the Tujunga Wash Channel in one location (for a total of three crossings). The channel is associated with the construction of the Hansen Dam in 1940. The Hansen Dam was the world's largest earth fill dam when it was completed. Hansen Dam was crucial in alleviating the effects of the floodwaters of the Tujunga Wash in the neighboring residential areas (Wuellner and Wahoff 2005). The Tujunga Wash Channel is associated with the Hansen Dam, but prior to its construction; its floodplain was not centralized and therefore, encompassed a greater area. The three alignments will also cross through the former Tujunga Wash floodplain and it is possible that during construction-associated ground disturbance activities, cultural resources may be encountered as they may be buried beneath alluvium or re-deposited in unknown locations as a result of deposition or erosion in the wash.

The S.P.R.R. ROW intersects with the project area in three places, two of which are currently in portions of the ROW operating as Metro busways and have undergone what is likely extensive disturbance. However the VA Hospital Segment intersects with an intact portion of the ROW in the location of the Amtrak/Metrolink tracks located on Woodley Avenue approximately 1,000 feet south of Roscoe Boulevard. Trenchless construction would be required for this rail crossing. The former S.P.R.R. ROW has been surveyed for cultural resources (Dames and Moore 1988), and although none have been previously recorded in this specific location, the ROW has a high potential for preserved historic and prehistoric archaeological sites.

Potential for Archaeological Resources

Archaeological Site Potential

Review of previous investigations in the vicinity of the project and of the prehistoric context for the area provides an understanding of the potential for encountering prehistoric sites in the project area. The important factors to consider in constructing such a model include elevation, soil conditions, proximity to water sources, and proximity to raw materials. In addition, subsequent land use is an essential factor in whether archaeological remains have been preserved.

As described in the context section of this report, the location of the project area is in the vicinity of the Mission San Fernando and prehistoric villages of *Tohuunga* and *Muuhonga* have long been rumored or documented as being located near portions of the project area. The project site's location relative to the Los Angeles River would have provided access to important resources during all periods of prehistory. Subsequent land use has included modern and historic development. The segments themselves lie within roadway alignment dating back to at least the 1920s. It is possible that archaeological resources could be buried beneath the ground surface,

especially in areas where development has included only minimal ground disturbance where the roadway may have effectively capped buried prehistoric or historic resources.

MANAGEMENT RECOMMENDATIONS

REGULATORY SETTING

Cultural resources in California are protected by a number of federal, state, and local regulations, statutes, and ordinances. Cultural resources are defined as buildings, sites, structures, or objects, each of which may have historical, architectural, archaeological, cultural, and/or scientific importance. State and federal laws use different terms for cultural resources. California state law discusses significant cultural resources as "historical resources," whereas federal law uses the terms "historic properties" and "historic resources." In all instances where the term "resource" or "resources" is used, it is intended to convey the sense of both state and federal law.

California Register of Historical Resources

The California Register was created to identify resources deemed worthy of preservation on a state level and was modeled closely after the National Register. The criteria are nearly identical to those of the National Register but focus on resources of statewide, rather than national, significance. The California Register consists of properties that are listed automatically as well as those that must be nominated through an application and public hearing process.

The criteria for eligibility of listing in the California Register are based on National Register criteria but are identified as 1 through 4 instead of A through D. To be eligible for listing in the California Register, a property must be at least 50 years of age and possess significance at the local, state, or national level, under one or more of the following four criteria:

1. It is 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; or
2. It is associated with the lives of persons important to local, California, or national history; or
3. It embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values; or
4. It has yielded, or has the potential to yield, information important in the prehistory or history of the local area, California, or the nation.

In addition to meeting one or more of the above criteria, historic resources eligible for listing in the CRHR must retain enough of their historic character or appearance to be able to convey the reasons for their significance. Such integrity is evaluated with regard to the retention of location, design, setting, materials, workmanship, feeling, and association.

City of Los Angeles Historic-Cultural Monument

On the local level, a historical or cultural monument is eligible for listing as an LAHCM under Article 4, Section 22.130 of the City of Los Angeles Administrative Code if the resource meets a number of criteria. Section 22.130 indicates that a monument is

> any site … building or structure of particular historic or cultural significance to the City of Los Angeles, such as historic structures or sites in which the broad cultural, economic, or social history of the nation, State, or community is reflected or exemplified, or which are identified with historic personages or with important events in the main currents of national, State, or local history or which embody the distinguishing characteristics of an architectural type specimen, inherently valuable for a study of a period style or method of construction, or a notable work of a master builder, designer, or architect whose individual genius influenced his age.

RECOMMENDATIONS

Recommendations specific to the portions of the project are detailed below. For each portion of the project area, there are specific mitigation measures pertinent to archaeological resources and paleontological resources.

Although no cultural resources were identified within the project area during the course of this Phase I background research and cultural resources field survey, potentially eligible archaeological resources may be buried under the existing roadway. Archaeological deposits exposed during future earth disturbing activities may be evidenced by the occurrence of either prehistoric or historic artifacts. Portions of the project area intersect with the Tujunga Wash. The level of ground disturbance below the road remains unknown. For example, it cannot be determined whether any potential archaeological sites associated with the building the Tujunga Wash, such as construction camps, may exist below the road.

Furthermore, historic development began in the project area almost 100 years ago when the common method of rubbish disposal was burial. Historic period archaeological materials are items over 50 years in age, including but not limited to glass bottles, ceramics, buried infrastructure, military and construction debris, metal, etc. During prehistoric times, the Project area may have been occupied by the *Gabrielino/Fernandeño* Indians. Archaeological materials associated with the prehistoric period may include food remains such as marine and freshwater shells, animal bones, and seeds. The soils surrounding food remains are distinguished from native soils typically by a dark grey or black ashy appearance. Other types of items that may be found are food processing equipment, such as manos and metates, and stone tools, such as projectile points, hammerstones, and scrapers. For these reasons, it is possible that buried or otherwise obscured archaeological resources may be present within the project area.

To address potential impacts of the proposed project to unknown archaeological resources, the following mitigation measure is recommended under the guidance of an archaeologist meeting, at a minimum, the standards of the Secretary of the Interior.

This project involves ground disturbing activities throughout the area defined as the project area. Because buried or otherwise obscured archaeological resources may be encountered, an archaeological monitoring program shall be implemented within segments identified as having cultural resources sensitivity. Archaeological monitoring of ground disturbing activities shall include:

- Archaeological monitoring for the North Hollywood Park segment due to the presence of the Tujunga Wash, historic development and evidence of prehistoric settlement 19-100281;
- Archaeological monitoring for the Van Nuys Sherman Oaks Park segment due to the proximity of the San Fernando Mission, Los Angeles River, and Santa Monica Mountains;
- Archaeological monitoring for the VA Hospital segment pipe jacking entry and exit pits in the location of the former S.P.R.R. crossing.

The on-site archaeological monitor shall work under the direction of a qualified archaeological Principal Investigator. The on-site archaeological monitor shall conduct worker training prior to the initiation of ground-disturbing activity in order to inform workers of the types of resources that may be encountered and apprise them of appropriate handling of such resources. If any prehistoric archaeological sites are encountered within the project area, consultation with interested Native American parties shall be conducted to apprise them of any such findings and solicit any comments they may have regarding appropriate treatment and disposition of the resources. The archaeological monitor shall have the authority to redirect construction equipment in the event potential archaeological resources are encountered.

In the event archaeological resources are encountered, LADWP shall be notified immediately and work in the vicinity of the discovery shall be halted until appropriate treatment of the resource, is determined by the qualified archaeological Principal Investigator in accordance with the provisions of CEQA Guidelines Section 15064.5 and Section 106 of the National Historic Preservation Act.

Ground disturbing activities include, but are not limited to, geotechnical boring, boring, trenching, grading, excavating, and the demolition of building foundations. The archaeological monitor will observe ground disturbing activities in the segments requiring monitoring, to depth.

Once ground disturbing activities begin, if the level of disturbance or fill encountered to depth is determined by the archaeological Principal Investigator to make the likelihood of archaeological findings improbably, the Principal Investigator in consultation with the LADWP may recommend that archaeological monitoring be continued intermittently as appropriate or discontinued within the segment or portion thereof.

In the event archaeological resources are encountered during archaeological monitoring, the monitor may halt work in the immediate vicinity until the discovery is assessed by the project archaeologist, and appropriate treatment determined. Additional monitoring recommendations may be made at that time.

In the event human remains are discovered, work in the immediate vicinity of the discovery will be suspended and additional measures will be implemented as required by federal law (pursuant to 43 CFR 10.4).

Upon completion of monitoring of ground disturbing activities associated with the identified segments of this project, an Archaeological Resources Monitoring Report shall be prepared documenting construction activities observed, including copies of all daily archaeological monitoring logs. If discoveries are made during ground disturbing activities, the report will also document the associated cultural materials and the methods of treatment as determined appropriate by the archaeologist. The report will be placed on file at the SCCIC upon its completion.

Paleontological Recommendations

Archival research, as described in the previous sections of this report, has indicated that excavations that extend into surfical younger Quaternary Alluvium within the proposed project area segments are unlikely to produce significant fossil vertebrate remains. Deeper excavations within the proposed project area segments however, that extend down into the older Quaternary deposits or the marine late Miocene Upper Modelo Formation, may encounter significant vertebrate fossils.

Any substantial excavations below 5 feet, should they be necessary, within the proposed project area segments, therefore, should be monitored closely to quickly and professionally recover any fossil remains discovered while not impeding development.

In the event that potential paleontological resources are encountered, a qualified paleontologist should be retained in order to recover and record any fossil remains discovered. Any fossils, should they be recovered shall be prepared, identified and catalogued before curation in an accredited repository such as designated in consultation with LADWP.

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2005 *Archaeological and Historic Architectural Resources Evaluation for the Hansen Dam Phase II Ranger Station and Trail Improvements Project, San Fernando Valley, Los Angeles County, California.* Report on File: AECOM San Diego, California.

APPENDIX A

RESUMES

Sara Dietler
Project Archaeologist/Paleontologist

Education
BA, Anthropology, San Diego State University, 1998
Minor, American Indian Studies, San Diego State University, 1998

Affiliations
Society for American Archaeology
Society for California Archaeology

Publications and Professional Papers
Dietler, S. 2000. Protohistoric Burial Practices of the Gabrielino as Evidenced by the Comparison of Funerary Objects from Three Southern California Sites. In Proceedings of the Society for California Archaeology, Volume 13. Judyth Reed, Greg Greenway, and Kevin McCormick eds. Society for California Archaeology. Fresno.

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Dietler, S. 2008. Digging Deep: Archival Research into the History of Los Angeles' City Cemetery. Oral Presentation at the Society for American Archaeology (SAA) Meeting, Vancouver, B.C., Canada, March.

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Strauss, M., S. Dietler, and C. Ehringer. 2008. Death Lends a Hand: Archaeological Excavations of Los Angeles's City Cemetery. Oral paper presentation at the Society for Historical Archaeology Annual Meeting, Albuquerque, NM.

Ehringer, C., L. Kry, S. Dietler, and M. Strauss, 2008. After the Bones Have Gone: The Role of Personal Effects in Identifying Unmarked Historic Burials. Poster presentation at the Society for Historical Archaeology Annual Meeting, Albuquerque, NM.

Presentations and Lectures
2005. Guest lecturer at Santa Monica Community College regarding career opportunities in cultural resources management, Santa Monica, CA.

2006. Guest lecturer at Santa Monica Community College regarding early Los Angeles history and cemetery research and excavation, Santa Monica, CA.

Sara Dietler is a project archaeologist and paleontologist with fifteen years of experience in cultural resource management and is also a cross-trained paleontological monitor and supervisor. She has worked for more than ten years in the Los Angeles area and participated in both historic and prehistoric research throughout Southern and Central California. Since joining AECOM's Los Angeles office, she has specialized in the development history of downtown Los Angeles and co-authored technical reports on numerous projects relating to this subject.

As lead cultural resource manager for the Los Angeles office, Sara directs prehistoric and historic archaeological field and research projects, built environment projects, and provides paleontological support for many clients in Southern California, including public agencies and private developers. She manages a staff of cultural resources specialists who conduct various types of cultural resources compliance including Phase I surveys, construction monitoring, Native American consultation, archaeological testing and treatment, historic resource significance evaluations, and large-scale data recovery programs. Sara prepares technical documents in support of CEQA and Section 106 compliance as well as cultural resources components for General and Specific Plans.

City of Los Angeles BOE, Main Street Archaeological/Paleontological Monitoring and Assessment, Los Angeles, CA
Directed the archaeological and paleontological monitoring of a police parking facility in downtown Los Angeles. Coordinated with the client and construction personnel throughout the project. Archaeological monitoring resulted in the identification of nineteen archaeological features. Completed the analysis of artifacts recovered and produced a technical report.

Clark Construction, Long Beach Courthouse Project, Long Beach, CA
Directing the paleontological and archaeological monitoring for the

construction of the New Long Beach Courthouse. Supervising monitors inspecting excavations up to 25 feet in depth. Nine archaeological features have been recovered to date. Will complete an assessment of the artifacts and fossil localities in a technical report at the completion of the project.

South Bay Metro Green Line Extension Project, Los Angeles County, CA
Created survey and evaluation strategy for transportation project through metropolitan Los Angeles County in consultation with SHPO to meet Section 106 requirements. Prepared technical report for the evaluation of historical resources and the cultural resources portion of EIS/EIR, including mitigation measures for the treatment of evaluated historical resources. Assistant Project Archaeologist.

LACDPW, Alcazar Yard Historical Assessment, Los Angeles, CA
AECOM conducted a Phase I historical assessment in anticipation of the redevelopment of the Alcazar Yards. The project area is located on two parcels at 1537 Alcazar Street and at 2275 Alcazar Street in Los Angeles. Managed the project and assisted the architectural historian with background research. Project Archaeologist.

LADPW, First Street Trunkline Project, Los Angeles, CA
AECOM has conducted cultural resource monitoring of the First Street Trunkline installation during excavation. Construction has included excavations up to 25 feet in depth. Supervised cross-trained monitors inspecting for archaeological resources and fossils in marine terrace deposits in the Puente formation that is encountered during the deeper excavations. Will complete an assessment of the artifacts and fossil localities in a technical report at the completion of the project.

LACDPW, Topanga Library Project, Topanga Canyon, CA
AECOM conducted archaeological monitoring during construction of the Topanga Library. Construction included the installation waterlines along the roadway outside of the main project area. Monitoring resulted in the discovery of materials associated with the recorded archaeological site CA-LAN-8. Directed cultural resource specialists in conducting archaeological testing of this site and worked closely with the LADPW to assist them in mitigating the effects of the project as well as coordinating with Caltrans who had oversight on the project. Resources were identified and evaluated for eligibility to the National Register of Historic Places.

LAUSD, Central Los Angeles High School #9, Los Angeles, CA
Conducted on-site monitoring and investigation of archaeological sites exposed as a result of construction activities. During data recovery phase in connection with a 19th century cemetery located on-site, participated in locating of features, feature excavation, mapping and client coordination. Organized background research on cemetery including; genealogical, local libraries, city and county archives, other local cemetery records, internet and local fraternal organizations. Advised in lab methodology and set up, and served as project manager, contributing author and editor for the in-progress technical report.

LADWP, Lakeside Recreational Complex, Sylmar, CA
AECOM conducted a Phase I cultural resources evaluation of the historic-era Lakeside Debris Basin property including a California Register eligibility assessment for the facility itself and archaeological features identified as a result of the survey, and prepared a Cultural Resources Technical Report with findings and recommendations for further work, pursuant to CEQA requirements.

City of Los Angeles BOE, Temple Street Widening Project, Los Angeles, CA
AECOM conducted archaeological monitoring during the widening of Temple Street in downtown Los Angeles. Extensive coordination with general contractors was involved, as well as response to discoveries including and segment of the zanja irrigation ditch and a large historic refuse deposit to determine appropriate treatment and develop recommendations. At the completion of the monitoring phase, AECOM archaeologists analyzed the artifacts and features documented during excavation and prepared and archaeological resource assessment.

Thomas Properties, Metro Universal, North Hollywood, CA
Assisted in compiling a compendium of over seventy years of archaeological excavation and construction monitoring in and around the Campo historic site. Drafted appropriate mitigation for the archaeological resources within the scope of the proposed development. At the request of the client a Vision Plan for the Universal City property to the east of the project area was peer reviewed for consistency and appropriate mitigation to historical resources on that property and affects to the historical resources on the Metro Universal Project location.

LAUSD, Glassell Park Early Education Center and Affordable Housing Project, Los Angeles, CA
Conducted a Phase I study for the Glassell Park Early Education Center (EEC) and Affordable Housing Project adjacent to the existing Glassell Park Elementary School. Prepared a cultural resources study with findings and recommendations for further work, pursuant to CEQA requirements.

LAUSD, Belmont Primary Care #11, Los Angeles, CA
Conducted on-site monitoring and investigation of a historic trash deposit exposed during grading. Assisted in completing and presenting background research on the property in order to contextualize the artifact findings. Conducted historic map research, as well as visiting local libraries, and city and county archives.

LACDPW, Olive View Medical Center Emergency Services Expansion, Los Angeles, CA
Participated in a Phase I cultural resources evaluation of a portion of the Olive View Medical Center campus in Sylmar. Assisted in research to support a California Register eligibility assessment of the MacClay Highline, an underground spur of the Los Angeles Aqueduct.

LACDPW, Olive View Medical Center Building 403 Cultural Evaluation
Los Angeles, CA
Completed the historic architectural survey and assisted the architectural historian in evaluating a historic ward building on the property of the Olive View Medical Center campus in Sylmar that was slated for demolition.

ExxonMobile, Chevron Station 31 Connection Project Fellows, CA
Directed a Phase I cultural resources evaluation of an undeveloped property in Kern County. Conducted an assessment of resources discovered during survey and prepared a Cultural Resources Technical Report with findings and recommendations for further work, pursuant to CEQA requirements.

Conejo Recreation and Park District,
Lang Ranch, El Monte, CA
Participated in the Phase I archaeological survey of the 46-acre project area. Project work involved the archaeological testing at two artifact isolate locations to determine presence of sub-surface deposits. Assisted in the preparation of an Archaeological Resources Technical Report and EIR section with findings and recommendations for further work, pursuant to CEQA requirements.

San Gabriel & Lower Los Angeles
Rivers and Mountains Conservancy, Woodland Duck Farm Project, El Monte, CA
Completed the Phase I investigation, including a historic structure and archaeological survey of the site of the former historic Woodland Duck Farm. Researched the history and background of the farm itself, assisted the Architectural Historian in the analysis of structures related to the duck farm and co-authored the technical report.

LACDPW, Santa Anita Reservoir, Los Angeles County, CA
Completed the Phase I investigation, including a historic structure and archaeological survey of the site of the Santa Anita Dam, Reservoir and Complex. Researched the history and background of the farm itself, assisted the Architectural Historian in the analysis of structures related to the dam complex and co-authored the technical report.

Western Bypass Bridge, Temecula, CA
Oversaw Phase I investigation including a record search and survey of the project area. Completed all documentation required for MND document.

John Laing Homes, Hellman Ranch Monitoring, Orange County, CA
Served as Lab Director for the final monitoring phase of the project, cataloging and analyzing artifacts recovered from salvage monitoring and test units placed in relation to recovered intact burials. Conducted microscopic analysis of small items such as bone tools and shell and stone beads. Directed lab assistants and oversaw special studies including the photo-documentation of the entire collection. Completed a section reporting on the results of the bead and ornament analysis in the final report, which was published as part of the AECOM technical series.

Twining Laboratories, Inc., Home Depot Monitoring – Lake Elsinore, Riverside County, CA
Participated in archaeological monitoring of Caltrans road-widening in vicinity of historic cemetery. Assisted in preparing negative report of findings. Coordinated with Caltrans.

Public Safety Facilities Master Plan, Los Angeles County, CA
Assisted in research and survey of a Phase I archaeological resources evaluation of an approximately five-square block area in downtown Los Angeles. Completed a record search at the South Central Coastal Information Center in addition to research on specific historic attributes present on the properties and general site history within the APE.

The Grove at Farmers Market Monitoring Project, Los Angeles, CA
Served as Lab Director for the analysis of a historic collection recovered from the area surrounding the historic Farmers Market and the nearby Gilmore Adobe. The project included cataloging and analysis of all recovered artifacts, reconstruction of items, photo-documentation and preparation for display and curation of the entire collection. Co-authored the resulting technical report for the project, which detailed the results of monitoring. The report included an analysis of features and artifacts recovered and a detailed history of the property.

San Diego Ballpark Project
Served as archaeological monitor for the construction of underground utility line installation for San Diego, California's downtown ballpark. Recovered historic artifacts and kept detailed records. Handled public relations and dealt with a variety of public officials and construction crews effectively, despite the controversial and complicated nature of this multimillion dollar project.

SANDAG Regional Beach Restoration Project
Acted as lead archaeological monitor in the inspection and analysis of offshore sediments along a large portion of coastal of San Diego County. The monitoring represented an effort to identify inundated archaeological sites in sediments representing former coastline. Collected samples of sediment, shellfish, and marine mammal remains from dredging spoils, and identified and described samples. Served as a vital member of a multidisciplinary team in materials evaluation. Job required familiarity with construction methods, and an ability to deal with a high level of media and public interest.

Barona Cultural Center and Museum, Barona Reservation Cultural Center Project San Diego County, CA
Completed an inventory of the recently purchased core collection for a new archaeological museum. Identified, inventoried, cleaned, and restored the artifacts, including extensive lithic and ceramic assemblages. Transformed the old and poorly packaged collection into one professionally sorted, documented, and labeled, and curated to Federal standards.

All American Pipeline Conversion Survey
Led a field crew as a part of a 170-mile long archaeological survey for the conversion of a high-pressure gas pipeline in the Mojave Desert between the towns of Daggett and Blythe, California. The survey located and updated previously unrecorded resources, including 93 archaeological sites and 22 isolated artifacts.

Level Three,Level Three Long Haul Construction Monitoring.
Coauthored a technical report concerning the salvage excavation of a Chumash multiple human burial exposed during the project, researching and analyzing the unique assemblage of stone beads associated with the human remains. Monitored the directional drilling, trenching, and clean-up relating to the installation of fiber optic cable along the coast of Santa Barbara and Ventura Counties, California. Worked closely with Chumash monitors in the identification, boundary and significance testing, and protection of prehistoric archaeological sites.

Model Marsh Data Recovery.
Excavated and water screened as part of a archaeological data recovery project for a buried Late Prehistoric period shell midden site (CA-SDI-15,598) in southern coastal San Diego, California. Following the excavation of 41 archaeological test units and 23 shovel test pits, sorted, catalogued, and speciated over 77,000 grams of shellfish and other cultural materials. Wrote the Invertebrate Faunal Analysis chapter of the resulting technical report.

MILCON Monitoring and Data Recovery.
Served as field crew for the emergency salvage treatment of eleven flexed human burials on northern MCAS Camp Pendleton, San Diego County, California. Data recovery included the identification of burial features during monitoring, exposing, documenting, and identifying visible remains, and then pedestalling and removing them in blocks.

ARCO, ARCO Burial Ground Salvage Excavation.
Assisted in cataloguing and analyzing artifacts following the salvage excavation of site CA-LAN-2682, a Protohistoric period Gabrielino habitation site and burial ground. Identified, sorted, and catalogued archaeological material including artifacts, large numbers of invertebrate and vertebrate faunal remains, as well as human remains. Conducted extensive research on several similar sites, culminating in an analytical paper presented at the 1999 Society for California Archaeology Meetings and published the following year in the group's proceedings.

Selected Reports

Central Los Angeles High School #9 Archaeological Excavation Report (in progress) (contributing author). Prepared for Los Angeles Unified School District. AECOM. (anticipated 2011).

Piecing Together the Prehistory of Landing Hill: A Place Remembered (contributing author). EDAW Cultural Publications. No. 3. (2007).

Archaeological Resources Assessment for the Alameda Street Improvement Project (in progress). Prepared for City of Los Angeles, Department of Public Works. AECOM. (2010)

Archaeological Resources Assessment for the MTA Universal Project. Prepared for Thomas Properties Group. EDAW, Inc. (2008).

Archaeological Evaluation Proposal (Phase II) of the Admiralty Site (CA-LAN047) for the State Route 90 Connector Road and the Admiralty Way Widening Projects, Marina del Rey, County of Los Angeles, CA. Prepared for Caltrans District 7. EDAW, Inc. (2007).

Cultural Resources Assessment for the Woodland Duck Farm Project, Avocado Heights, Los Angeles County, CA (with A. Tomes). Prepared for San Gabriel River & Lower Los Angeles Rivers and Mountains Conservancy (2007).

APPENDIX D
TRAFFIC STUDY

DRAFT

Traffic Study for the LADWP San Fernando Valley Water Recycling Project EIR

June 15, 2012

Prepared For:
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Table of Contents

List of Figures

List of Tables

Appendix

1. Introduction

This document provides a summary of the traffic impact analysis conducted for the San Fernando Valley Water Recycling Project. The Project has been proposed by the City of Los Angeles Department of Water & Power (LADWP) for implementation within the City of Los Angeles.

This study report assesses the potential traffic impacts of the construction of the proposed Project.

1.1 Project Location

The proposed Project would consist of six segments, which would be located within public street rights-of-way in urbanized and fully developed areas within the San Fernando Valley. The six segments would extend to North Hollywood Park, Valley Plaza Park, Van Nuys Sherman Oaks Park, Reseda Park, the Veteran's Administration Hospital (VA Hospital), and Pierce College. All six segments abut residential, commercial, public facilities, and recreational or open space uses. Additionally, the VA Hospital segment would run adjacent to industrial uses.

Figure 1 illustrates the Project corridors.

1.2 Project Description

The City of Los Angeles Department of Water and Power (LADWP) proposes to maximize the use of recycled water to replace potable sources for irrigation and industrial uses by extending the recycled water pipeline network to the San Fernando Valley.

The LADWP recycled water projects are divided into four service areas: Harbor, Metro, Valley, and Westside. Each service area, with the exception of the Harbor service area, is supplied by one water treatment facility and a corresponding pipeline distribution system that is hydraulically independent from the others. A distribution system is made up of individual Water Recycling Projects (WRPs) that are connected together. There are five water treatment facilities that serve the four service areas: Terminal Island Treatment Plant, which serves the Harbor Service area via its Advanced Water Treatment Facility; West Basin Municipal Water District Carson Regional Water Recycling Facility, which also serves the Harbor Service Area; Los Angeles-Glendale Water Reclamation Plant, which serves the Metro Service Area; Donald C. Tillman Water Reclamation Plant, which serves the Valley Service Area; and the West Basin Municipal Water District Edward C. Little Plant, which serves the Westside Service Area.

The proposed San Fernando Valley WRP (project) would be located within the Valley Service Area and supplied with recycled water from the Donald C. Tillman Water Reclamation Plant. Additionally, the proposed Project would include a connection to the City of Burbank recycled water system, which receives recycled water from the Burbank Water Reclamation Plant. The proposed project would consist of six segments: North Hollywood Park, Valley Plaza Park, Van Nuys Sherman Oaks Park, Reseda Park, Veterans Administration (VA) Hospital, and Pierce College. The construction of these six segments would expand the supply of recycled water to customers located throughout the San Fernando Valley. These customers have committed to using recycled water for non-potable uses. All segments would connect to existing recycled water pipeline systems in the area using a 16-inch connection and 16-inch diameter distribution lines. The North Hollywood Park segment would connect to the existing City of Burbank recycled water pipeline; four segments would connect to the existing LADWP recycled water pipeline; and the Pierce College segment would connect to the Reseda Park

segment. In total, approximately 109,800 linear feet of new recycled water pipeline would be installed with implementation of the proposed project.

The North Hollywood Park segment would connect to the existing 16-inch City of Burbank pipeline via a 16-inch point connection on the City of Los Angeles border at Verdugo Avenue and Clybourn Avenue. From the pipeline connection point, this segment would extend approximately 14,000 linear feet west on Verdugo Avenue to Camarillo Street, then continue west on Camarillo Street to Vineland Avenue, then north on Vineland Avenue to Magnolia Boulevard, and west on Magnolia Boulevard terminating at North Hollywood High School. This segment would be trenched across the San Fernando Wash on Magnolia Boulevard approximately 900 feet west of Tujunga Avenue. Along its route, the North Hollywood Park segment would serve the following known customers:

- North Hollywood Park, located on Magnolia Boulevard west of Tujunga Avenue
- North Hollywood High School, located at Magnolia Boulevard and Colfax Avenue

The Valley Plaza Park segment would connect to the existing 54-inch LADWP pipeline via a 16-inch connection point at the intersection of Sherman Way and Woodman Avenue. This segment would extend approximately 14,700 linear feet east on Sherman Way from the connection point to SR170, with two segments extending south; one on Ethel Avenue from Sherman Way to James Madison Middle School; and one on Whitsett Avenue from Sherman Way to Vanowen Street, and east on Vanowen Street terminating at Valley Plaza Park. This segment would cross the San Fernando Wash in two places. The first channel crossing would occur on Sherman Way approximately 1,300 feet east of Woodman Avenue, and the second channel crossing would occur on Vanowen Street approximately 1,021 feet east of Whitsett Avenue. For the channel crossing on Sherman Way, the pipe would be hung from the side of the roadway or installed through an existing utility duct. For the channel crossing on Vanowen Street, trenching would be used. Additionally, this route would cross over the SR-170 freeway overpass bridge on Sherman Way, which would require installation through an existing utility duct. The Valley Plaza Park segment would serve the following known customers:

- James Madison Middle School, located on Ethel Avenue south of Hart Street
- Caltrans facility, located on Sherman Way east of SR 170
- Valley Plaza Park, located on Vanowen Street east of SR 170

The Van Nuys Sherman Oaks Park segment would begin on Kester Avenue just south of the Metro Orange Line Busway via an extension of the existing 16-inch LADWP pipeline. This segment would extend approximately 21,800 linear feet south on Kester Avenue from the connection point to Oxnard Street, then east on Oxnard to Van Nuys Boulevard, and south on Van Nuys Boulevard terminating at Sherman Oaks Hospital, with two extensions. One of these extensions would travel east on Burbank Boulevard from Van Nuys Boulevard and terminate at Los Angeles Valley College. The other extension would travel east on Magnolia Boulevard from Van Nuys Boulevard and terminate at Van Nuys Sherman Oaks Park. The Van Nuys Sherman Oaks Park segment would serve the following known customers:

- Sherman Oaks Hospital, located on Van Nuys Boulevard south of Addison Street
- Van Nuys Sherman Oaks Park, located on Magnolia Boulevard east of Van Nuys Boulevard
- Burbank Oaks apartment complex, located on Burbank Boulevard west of Tyrone Avenue
- Los Angeles Valley College, located on Burbank Boulevard east of Fulton Avenue

The Reseda Park segment would connect to the existing 54-inch LADWP pipeline via a 16-inch connection point at the intersection of Victory Boulevard and Woodley Avenue. This segment would extend approximately 24,300 linear feet west on Victory Boulevard from the connection point terminating at the intersection of Victory Boulevard and Reseda Boulevard, with three extensions. One extension would travel south on Balboa Boulevard from Victory Boulevard and terminate at the Sepulveda Basin Sports Complex. Another extension would travel north on Balboa Boulevard from Victory Boulevard to Vanowen Street, then west on Vanowen Street terminating at Mulholland Middle School. A third extension would travel north on Lindley Avenue from Victory Boulevard to Kittridge Street, then west on Kittridge Street and terminate on the north side of Reseda Park just east of the intersection of Kittridge Street and Reseda Boulevard. There would be two channel crossings on Victory Boulevard over Bull Creek, one approximately 1,050 feet east of Balboa Boulevard and the other approximately 600 feet west of Lindley Avenue. For the first channel crossing, the pipeline would be hung from the side or underneath the bridge. The Reseda Park segment would serve the following known customers:

- Sepulveda Basin Sports Complex, located on Balboa Boulevard south of Victory Boulevard
- Birmingham High School, located on Balboa Boulevard and Haynes Street
- Valley Alternative School, located on Balboa Boulevard and Vanowen Street
- Mulholland Middle School, located on Vanowen Street east of Aldea Avenue
- High Tech High School, located on Victory Boulevard east of Aldea Avenue,
- South side of Reseda Park, located on Victory Boulevard at Reseda Boulevard
- North side of Reseda Park, located on Kittridge Street east of Reseda Boulevard

The VA Hospital segment would connect to the existing 54-inch LADWP pipeline via a 16-inch connection point at the intersection of Sherman Way and Woodley Avenue. This segment would extend approximately 21,400 linear feet north on Woodley Avenue from the connection point and terminate at the intersection of Woodley Avenue and Roscoe Boulevard, with two extensions. One extension would travel west on Roscoe Boulevard from Woodley Avenue to Gothic Avenue, then north on Gothic Avenue terminating at Valley Sod Farms. Another extension would travel east on Roscoe Boulevard from Woodley Avenue to Haskell Avenue, then north on Haskell Avenue and terminate at the VA Hospital. This segment would cross the Amtrak/Metrolink tracks located on Woodley Avenue approximately 1,000 feet south of Roscoe Boulevard. Trenchless construction would be required for rail crossings. The VA Hospital segment would serve the following customers:

- Valley Sod Farms, located on Gothic Avenue east of Hayvenhurst Avenue
- Anheuser Busch facility, located on Roscoe Boulevard west of Interstate 405 (I-405)
- VA Hospital, located on Haskell Avenue south of Lassen Street

The Pierce College segment would connect to the western most termination point of the Reseda Park segment via a 16-inch pipeline extension, and then travel approximately 13,600 linear feet west on Victory Boulevard, terminating at the intersection of Victory Boulevard and Mason Avenue. This segment would cross the Metro Orange Line Busway on Victory Boulevard approximately 1,000 feet east of Winnetka Avenue. It would only serve Pierce College at this time.

Installation of the recycled water pipeline would occur within public roads using a cut and cover trenching technique. An approximately 2.5-foot wide by 5-foot deep trench would be excavated within the roadway that could be covered with metal plates during periods of the day when construction is not ongoing. Once the pipeline has been installed within a segment, the trench would be backfilled with imported slurry and repaved. Excess soil that cannot be reused as backfill material would be disposed of at an appropriate regional landfill. Recycled water pipeline installation would necessitate restrictions of

on street parking and closure of up to two lanes of the roadway depending on the location of construction. In general, approximately 90 linear feet of pipeline would be installed per day.

Construction would occur sequentially along the alignment of each segment to minimize long-term disruption within any one area. Construction would generally occur from east to west, beginning with the North Hollywood Park segment. Subsequent segments would be constructed in the following order: Valley Plaza Park, Van Nuys Sherman Oaks Park, Reseda Park, VA Hospital, and Pierce College. Materials and equipment staging and construction worker parking would use City facilities and public parking lots located along or near the proposed alignments.

Railroad crossings would require tunneling instead of trenching. Launching and receiving pits would be located on either end of the tunnel. Hydraulic jacks would drive pipes through the ground. Excess soil that cannot be reused as backfill material would be disposed of at an appropriate regional landfill.

Project construction is anticipated to start in summer 2017 and finish in summer 2022.

The proposed Project would be located entirely within the City of Los Angeles.

This traffic study analyzed potential traffic impacts at study roadway segments for the following scenarios:

- Existing (2012) Conditions
- Future without Project Construction
- Future with Project Construction
- Existing (2012) Plus Project Construction

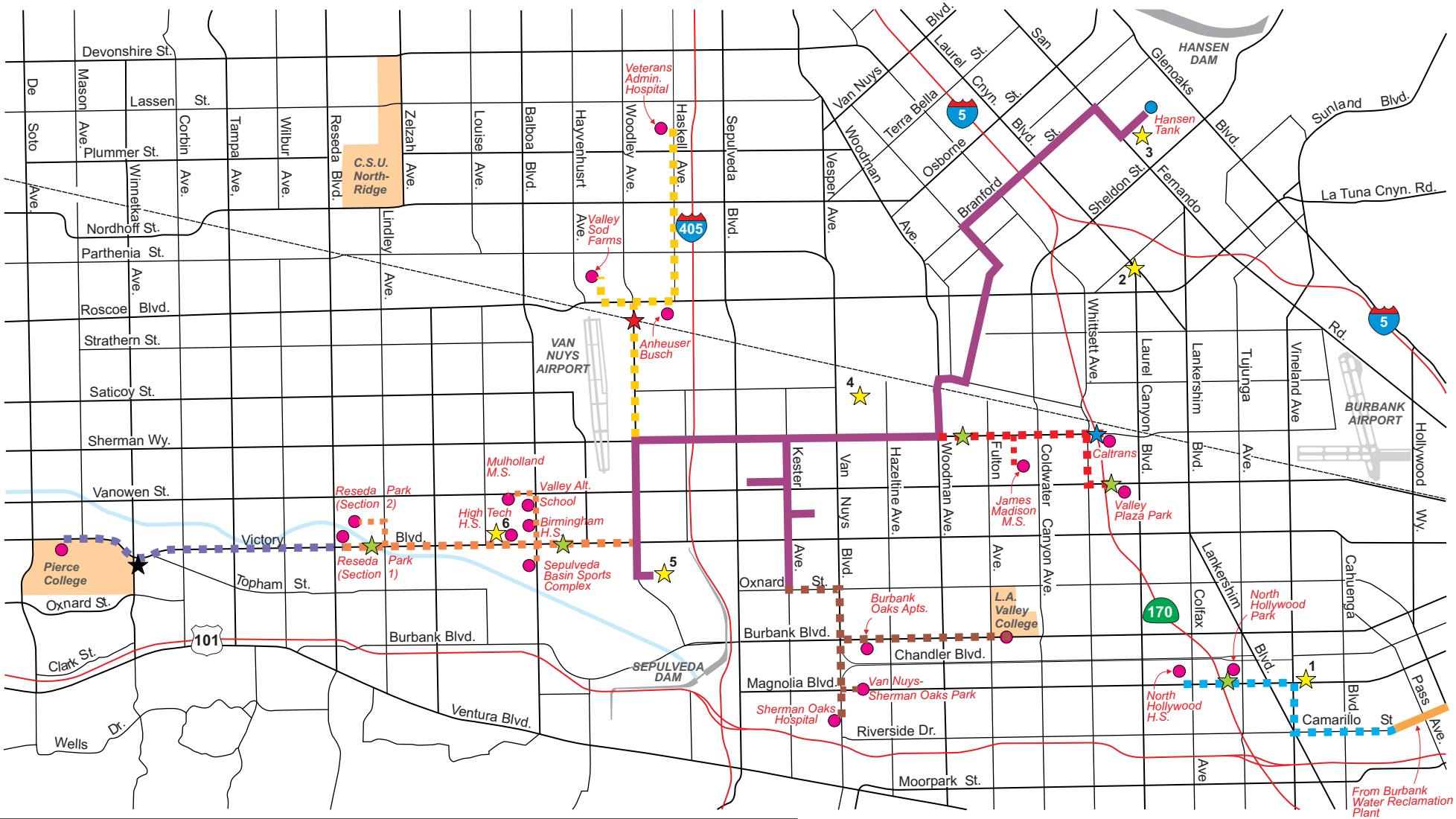
1.3 Traffic Impact Analysis Methodology

The Project was analyzed based on the routes of the recycled water pipeline. The analysis includes the following:

- The use of collected daily volumes to analyze general roadway operations;
- Future roadway operations with and without the Project construction; and
- Analysis of potential impacts on transit service, and bicycle and pedestrian access due to lane closures.

Existing (2012) Conditions

Fieldwork within the Project study area was undertaken to identify the conditions of major roadways, to identify number of travel lanes, speed limits, parking restrictions, and other characteristics of each study roadway segment.



LEGEND

- Existing Pipelines
- Existing Pipelines (Burbank)
- North Hollywood Park WRP (14,000')
- Valley Plaza WRP (14,700')
- Van Nuys - Sherman Oaks Park WRP (21,800')
- Reseda Park WRP (24,200')
- VA Hospital WRP (21,400')
- Pierce College WRP (13,600')
- Customer
- Channel Crossing
- Bridge
- Railroad Crossing
- Potential Staging Area
- MTA Orange Line Busway

N

Not to Scale

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San Fernando Valley WRP

Figure 1

Project Corridors

Daily vehicle volume counts utilized for base volumes at the study roadway segments were conducted on Tuesday, May 15 2012. These counts were conducted before local school districts entered summer sessions, in order to provide a snapshot of normal traffic flows during non-summer months. Traffic count locations were chosen based on the analyzed roadway corridors and their characteristics.

Existing volumes and level of service values for the study roadway segments are discussed within Section 2 of this report.

Future without Project Conditions

In order to acknowledge regional traffic growth that would affect operations at the study roadway segments during Project construction, a traffic growth rate was applied. The growth rate was based on the 2010 Los Angeles County Congestion Management Program (CMP). The study segments are located in two separate regional statistic areas (RSA) within the Los Angeles County -- Area 12 (West San Fernando Valley) and Area 13 (Burbank). The highest growth rate (Area 12 – West San Fernando Valley) was multiplied by a factor of two to provide a conservative estimate of traffic growth in the study area. This provided for estimated volumes that included regional traffic growth plus additional vehicles trips generated by proposed development projects in the area.

A growth factor of 1.108 was applied to all 21 study segment locations, to reflect 10 years of traffic growth.

The future without Project scenario is discussed in Section 3 of this report.

Future with Project Conditions

The future with Project conditions scenario analyzes the future roadway conditions with Project construction trip generation. The Project trips were calculated from the number of construction employees that would be working within the study area.

The future with Project scenario is discussed in more detail in Section 3 of this report.

Existing (2012) Plus Project

The existing plus Project scenario analyzes the existing roadway conditions with Project construction trip generation but without future-period traffic growth. The existing roadway segment counts were conducted within 2012. The Project trips were calculated from the number of work crews and total employees that would be working during construction within the study area.

The existing plus Project scenario is discussed in more detail in Section 4 of this report.

Impact Definition

The installation of the recycled water pipeline using trench construction (i.e., "cut and cover") within the roadway will have the greatest traffic circulation impact. The trench would be covered with metal plates during periods of the day when construction is not ongoing. LADWP construction assumptions indicate that the establishment of typical work areas will necessitate the closure of one to two travel lanes (with a work area of 10 to 12 feet in width) and require restrictions on on-street parking. Construction activity would occur Monday through Friday from 7:00 a.m. to approximately 3:30 p.m. In general, approximately 90 linear feet of pipeline would be installed at one time. Construction would occur sequentially along the alignment to minimize long-term disruption within an area. Materials and equipment staging and construction worker parking would use City facilities and public parking lots located along or near the proposed alignments. Analysis of potential traffic circulation and area access impacts were analyzed based on the typical Project roadway lane closures.

Trips that would be generated by employee vehicles to the construction segments were included in the Project construction analysis. Additional construction-related trips generated along the construction segments during the moving work areas were included in the analysis.

Impact thresholds defined by LADOT and the CMP were not utilized for the Project traffic analysis. These standards define significant impacts to traffic operations of new trip generation and the long-term mitigation of such impacts through the provision of additional traffic signal or roadway capacity. The construction of the Project will constrict roadway capacity in affected segments; therefore, the discussion was concentrated on the capacity that can be provided during construction. In addition, new trip generation by construction employees will have short-term effects on traffic conditions. The impact analysis was based on roadway flow during construction and the generalized application of volume-to-capacity calculations. Of particular concern were study locations that would worsen in operations to or within level of service (LOS) values of E or F. These two values represent poor operating conditions.

2. Project Construction on Public Roadways

This section of the report identifies the construction activity that would occur with the proposed recycled water pipeline routes. LADWP has defined approximate construction timeframes and physical dimensioning for typical work areas. These details are discussed further within this report section.

Due to the extensive surface work that is required, excavations and open trenching methods will have the greatest traffic circulation impacts. It is assumed that construction operations will require a "spread" or total work area/closure width of one or two travel lanes. During this period, temporary lane closures of roadways along the proposed Project alignment would be required, although two-way travel along the affected roadways would be maintained during construction of the Project.

Project construction activities will be accomplished in the following steps:

Step 1 – Survey and Trench Marking – The initial step will consist of surveying and marking the center line of the trench and surveying and marking underground substructures that will need to be potholed.

Step 2 – Sawcutting, Breaking and Removal of Pavement – Following the marking of the center line of the trench, concrete type pavement will be sawcut and then broken while asphalt pavement will be broken. The pavement will then be hauled away for disposal.

Step 3 – Excavations, Trenching, Pipeline Installation, and Backfilling – Each construction crew would trench approximately 90-foot-long segments each day. The trench would be approximately 2.5-foot wide by 5-foot deep. Areas that are trenched or excavated would be covered with steel plates every evening until the road surface is restored; this would allow for continued usage of the affected roadway. When segments of the trench line are restored, more trenching would occur farther down the street.

This report analyzes the effects of typical construction work areas, including work areas for Steps 2, (Sawcutting, Breaking and Removal of Pavement), 3 (Excavations, Trenching, Pipeline installation, backfilling), and the physical effect of the establishment of these areas on typical roadway cross-sections. The worst-case physical extents of related roadway capacity constrictions within each Project segment have been considered.

2.1 Project Construction Details

Most of the construction activities for the Project will occur within public rights-of-way on city streets pursuant to LADWP existing franchise agreements.

Temporary lane closures along streets as required for construction would be coordinated with the other City of Los Angeles entities such as the Bureau of Engineering (LABOE) and the Department of Transportation (LADOT). LADWP is a member of the California Joint Utility Traffic Control Committee, which in 1996 published the *Work Area Protection and Traffic Control Manual.* The traffic control plans and associated text depicted in this manual conform to the guidelines established by the Federal and State Departments of Transportation.

LADWP would follow the recommendations in this manual regarding basic standards for the safe movement of traffic upon highways and streets in accordance with Section 21400 of the California Vehicle Code. These recommendations include provisions for safe access of police, fire, and other

rescue vehicles. In addition, LADWP would obtain roadway encroachment permits and would submit traffic management plans to LABOE and LADOT for review and approval.

Throughout the construction of the trench, asphalt, concrete, and excavated material would be hauled off by truck for disposal at an approved disposal site.

In roadways, trucks would be used to haul material, typically as it is excavated from the trenches. As trucks are filled with spoils, they would leave the work areas and be replaced by empty trucks. Approximately six loads of excavated soils would be required per day.

As part of the final construction activities, roadway pavement would be restored, landscaping or vegetation would also be restored as necessary, and the area would be cleaned up.

Lane closure for construction activities will be shown on the traffic control plans, to be submitted to LADOT on each construction segment. Table 1 summarizes the anticipated lane closures that will be required for work areas.

Table 1 – Anticipated Project Construction Lane Closures

ACTIVITY	NUMBER OF LANES CLOSED
Surveying	1
Sawcutting and Pavement Breaking	1
Excavation	1 or 2
Trenching	1 or 2
Pipeline Install and Backfilling	1 or 2

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2.2 Project Schedule & Logistics

Construction of the project is anticipated to start in summer 2017 and finish in summer 2022, taking approximately five years to complete. Project construction activity would be performed by approximately 12 field personnel.

Typical construction hours would be Monday through Friday from 7:00 a.m. to 3:30 p.m. The City of Los Angeles Rush Hour Ordinance limits in-street construction on weekdays to the hours of 9:00 a.m. through 3:30 p.m.; however, a variance to the Mayor's Executive Order No. 2 to allow construction outside those times would be requested.

2.3 Existing (2012) Conditions

The existing traffic conditions for daily and a.m. and p.m. peak-hour periods and the associated level of service values were analyzed for the 21 study roadway segments. The following are the 21 study roadway segments analyzed under the proposed Project corridor analysis:

1. Camarillo Street west of Cahuenga Boulevard
2. Vineland Avenue south of Magnolia Boulevard
3. Magnolia Boulevard east of Colfax Avenue
4. Sherman Way east of Woodman Avenue
5. Sherman Way east of Coldwater Canyon Avenue
6. Whitsett Avenue south of Sherman Way
7. Vanowen Street east of Whitsett Avenue
8. Oxnard Street east of Kester Avenue
9. Van Nuys Boulevard south of Clark Street (between Burbank and Magnolia)
10. Burbank Boulevard west of Woodman Avenue
11. Magnolia Boulevard east of Van Nuys Boulevard
12. Victory Boulevard west of Hayvenhurst Avenue
13. Victory Boulevard east of Reseda Boulevard
14. Balboa Boulevard north of Victory Boulevard
15. Woodley Avenue north of Sherman Way
16. Roscoe Boulevard west of Woodley Avenue
17. Roscoe Boulevard west of Haskell Avenue
18. Haskell Avenue south of Parthenia Street
19. Haskell Avenue north of Nordhoff Street
20. Victory Boulevard west of Reseda Boulevard
21. Victory Boulevard east of Mason Avenue/Stadium Way

Figure 2 illustrates the locations of study roadway segments.

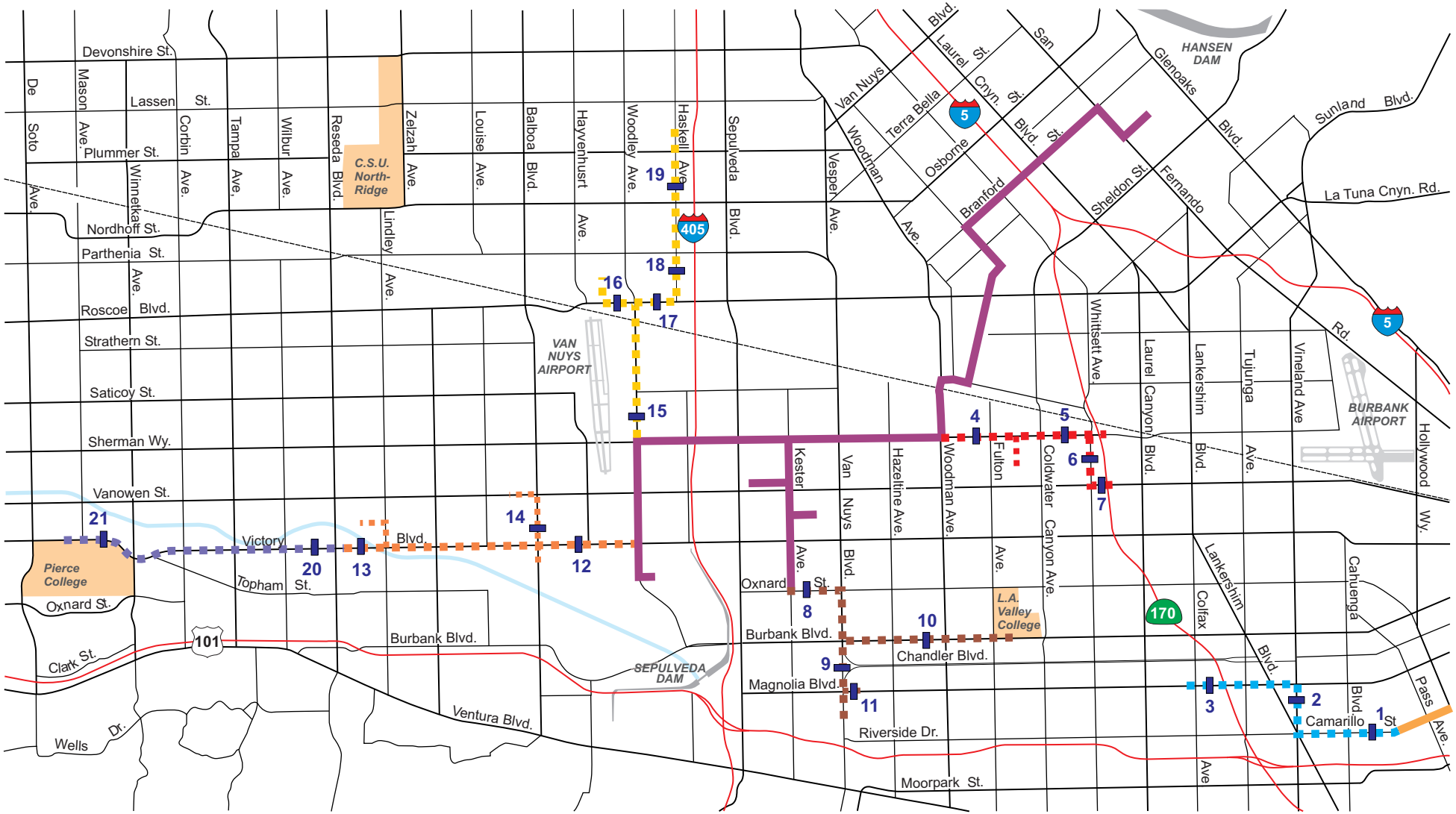
Methodology

Field surveys and traffic counts were conducted within the study area, to determine the existing study roadway segment characteristics, for further analysis of Project-related construction activities. This data was utilized for analysis of Project construction within the study area, specifically the effects of potential lane closures during construction on traffic operations.

Average Daily Traffic (ADT) volumes were collected at the study roadway segments locations on Tuesday, May 15, 2012. The volumes were collected over a 24-hour period at each location (midnight to midnight), by automatic volume counting equipment.

Study Roadway Segment Characteristics

The proposed Project alignment is generally located along major roadways with two to six travel lanes in each direction. Curbside parking is generally permitted along most of the alignment; however, parking tends to be more restrictive near commercial areas. Table 2 summarizes the study segments by number of lanes, median type, parking restrictions, adjacent land uses, speed limits, and curb to curb right-of-way.



LEGEND

- Existing Pipelines
- Existing Pipelines (Burbank)
- North Hollywood Park WRP (14,000')
- Valley Plaza WRP (14,700')
- Van Nuys - Sherman Oaks Park WRP (21,800')
- Reseda Park WRP (24,200')
- VA Hospital WRP (21,400')
- Pierce College WRP (13,600')
- X — Study Segment and Reference Number

N

Not to Scale

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Figure 2

Study Roadway Segments

Table 2 – Project Corridor Roadway Characteristics

Study Seg #	Segment	From	To	Funtional Classification	Lane		Median Type	Parking Restrictions		Land Use	Speed Limit	Streeet ROW(FT)
					NB/EB	SB/WB		NB/EB	SB/WB			
NORTH HOLLYWOOD PARK WRP												
1	Camarillo St	Cahuenga Bl	Vineland Av/ Lankershim Bl	Secondary	1	1	2LT	2 Hr 8 a.m. to 6 p.m. NP (Thursday) 8a.m. to 10a.m.	2 Hr 8 a.m. to 6 p.m. NP (Thursday) 8a.m. to 10a.m.	Residential	35	44' to 58'
2	Vineland Ave	Camarillo St	Magnolia Bl	Major Hwy Class II	3	3	RM	2 Hr 8 a.m. to 6 p.m.	NSAT	Commercial Residential	40	96' to 106'
3	Magnolia Blvd	SR-170 Freeway	Colfax Av	Secondary	2	2	DY	2 Hr 8 a.m. to 6 p.m.	2 Hr 8 a.m. to 6 p.m.	Commercial Residential	35	66'
VALLEY PLAZA PARK WRP												
4	Sherman Way	Woodman Av	Fulton Av	Major Hwy Class II	3/2	3/2	DY	NS 7a.m. to 9 a.m., 2Hr. 9a.m to 6p.m. NP(Friday) 8 a.m. to 10 a.m.	NS 4p.m. to 7 p.m., 2Hr. 9a.m to 4p.m. NP(Friday) 8 a.m. to 10 a.m.	Commercial Residential	35	80'
5	Sherman Way	Coldwater Canyon Av	Whitsett Av	Major Hwy Class II	3/2	3/2	DY	NS 7a.m. to 9 a.m., 2Hr. 9a.m to 6p.m. NP(Friday) 8 a.m. to 10 a.m.	NS 4p.m. to 7 p.m., 2Hr. 9a.m to 4p.m. NP(Friday) 8 a.m. to 10 a.m.	Residential	35	80'
6	Whitsett Ave	Sherman Way	Vanowen St	Secondary	2	2	DY	NP(Wednesday) 12noon to 2 p.m.	NP(Thursday) 12 noon to 2 p.m.	Residential Other	35	64' to 70'
7	Vanowen St.	Whitsett Av	SR-170 Freeway	Secondary	2	2	DY	NP(Wednesday) 12noon to 2 p.m.	NP(Wednesday) 12noon to 2 p.m.	Residential	35	66'
VAN NUYS-SHERMAN OAKS PARK WRP												
8	Oxnard St	Kester Av	Van Nuys Bl	Secondary	2	2	DY	2Hr. 8a.m to 6p.m. NP(Monday) 12 noon to 2 p.m.	2Hr. 8a.m to 6p.m. NP(Monday) 12 noon to 2 p.m.	Commercial Residential Industrial	35	66'
9	Van Nuys Blvd	Clark St	Weddington St	Major Hwy Class II	2	2	DY	2Hr. 8a.m to 6p.m. NP(Monday) 12 noon to 2 p.m.	2Hr. 8a.m to 6p.m. NP(Monday) 12 noon to 2 p.m.	Commercial Residential Industrial	35	76'
10	Burbank Blvd	Hazeltine Av	Woodman Av	Major Hwy Class II	2	2	DY	2Hr. 8a.m to 6p.m. NP(Monday) 12 noon to 2 p.m.	2Hr. 8a.m to 6p.m. NP(Monday) 12 noon to 2 p.m.	Commercial Residential Industrial	35	80'
11	Magnolia Blvd	Van Nuys Bl	Hazeltine Av	Secondary	2	2	2LT	2Hr. 8a.m to 6p.m. NP(Thurday) 12 noon to 2 p.m.	2Hr. 8a.m to 6p.m. NP(Monday) 12 noon to 2 p.m.	Commercial Residential Industrial	35	64' to 66'
RESEDA PARK WRP												
12	Victory Blvd	Hayvenhurst Av	Balboa Bl	Major Hwy Class II	3	3/2	DY	NSAT	NS 4p.m. to 7 p.m. NP(Friday) 8 a.m. to 10 a.m.	Residential	45	74' to 80'
13	Victory Blvd	Lindley Av	Reseda Bl	Major Hwy Class II	3	3	DY	NSAT	NSAT	Commercial Residential	45	80'
14	Balboa Blvd	Victory Bl	Vanowen St	Major Hwy Class II	3/2	3/2	DY	NP(Friday) 8 a.m. to 11 a.m. NS 3p.m. to 7 p.m.	NP(Friday) 8 a.m. to 11 a.m. NS 7a.m. to 9a.m., NSAT	Residential Other	35	78'
VA HOSPITALWRP												
15	Woodley Ave	Sherman Way	Saticoy St	Major Hwy Class II	2	2	DY	NP(Monday) 8 a.m.~11 a.m.	NP(Friday) 8 a.m.~11a.m.	Commercial Residential	40	78'
16	Roscoe Blvd	Woodley Av	Hayvenhurst Av	Major Hwy Class II	3	3	DY	NSAT	NSAT	Commercial Residential	40	80'
17	Roscoe Blvd	Woodley Av	Haskell Av	Major Hwy Class II	3	3	DY	NSAT	NSAT	Commercial Residential	40	80'
18	Haskell Ave	Roscoe Bl	Chase St	Secondary	1	1	2LT/DY	NSAT	Parking Allowed/NSAT	Residential	40	30' to 40'
		Chase St	Parthenia St	Secondary	2	2	2LT	Parking Allowed	Parking Allowed	Residential	40	64'
19	Haskell Ave	Nordhoff St	Plummer St	Secondary	2	2	DY	NP 8a.m.-6p.m.	15 min 7a.m. to 5 p.m., Loading 6:30a.m. to 9a.m. and 1:30p.m. to 4p.m., 2Hr 9a.m. to 1:30p.m.	Residential Other	40/25	64'
PIERCE COLLEGE WRP												
20	Victory Blvd	Reseda Bl	Wilbur Av	Major Hwy Class II	3	2	2LT	NSAT	NP(Friday) 8 a.m. to 10 a.m.	Residential	45	74'
21	Victory Blvd	Winnetka Av	Mason St/ Stadium Way	Major Hwy Class II	3	3	2LT	NP(Friday) 8 a.m. to10 a.m./NPAT	NSAT	Residential	45	80'

Lanes - Peak/Off-Peak NM - No Median Striping RM - Raised Median NS - No Stopping NSAT - No Stopping Anytime

DY - Doublle Yellow 2LT - Dual Left Turn LRT - Light Rail Transit NP - No Parking M - Metered Parking

Existing (2012) Traffic Volumes

The average daily traffic volumes at the study roadway segments range from 6,818 vehicles to 47,814 vehicles. On average, the east-west study route segments along Sherman Way, Victory Boulevard, and Roscoe Boulevard have the highest amount of daily vehicles.

Existing Daily Vehicle Volumes

The daily volumes and calculated level of service values are provided in Table 3. Of the 21 roadway segments analyzed, one segment currently operates with poor level of service (LOS E) on a daily basis:

- Segment 3 - Magnolia Boulevard east of Colfax Avenue

The remaining 20 study roadway segments currently operate at good level of service values of D or better. The roadway segment volumes for the study areas are illustrated on Figure 3. The compiled counts at the Project study roadway segments are provided within Appendix A to this report.

Table 3 – Existing (2012) Daily Vehicle Volumes and Level of Service

	Segment	From	To	Capacity	# of Lanes	Existing		
						Volume	V/C	LOS
NORTH HOLLYWOOD PARK WRP								
1	Camarillo St	Cahuenga Bl	Vineland Av/Lankershim Bl	15,000	2	12,346	0.823	D
2	Vineland Av	Camarillo St	Magnolia Bl	60,000	6	26,011	0.434	A
3	Magnolia Bl	SR-170 Freeway	Colfax Av	30,000	4	27,161	0.905	**E**
VALLEY PLAZA PARK WRP								
4	Sherman Way	Woodman Av	Fulton Av	60,000	6	45,812	0.764	C
5	Sherman Way	Coldwater Canyon Av	Whitsett Av	60,000	6	47,483	0.791	C
6	Whitsett Av	Sherman Way	Vanowen St	30,000	4	15,735	0.525	A
7	Vanowen St	Whitsett Av	SR-170 Freeway	30,000	4	24,741	0.825	D
VAN NUYS-SHERMAN OAKS PARK WRP								
8	Oxnard St	Kester Av	Van Nuys Bl	30,000	4	22,486	0.750	C
9	Van Nuys Bl	Clark St	Weddington St	40,000	4	35,486	0.887	D
10	Burbank Bl	Hazeltine Av	Woodman Av	40,000	4	27,367	0.684	B
11	Magnolia Bl	Van Nuys Bl	Hazeltine Av	30,000	4	22,351	0.745	C
RESEDA PARK WRP								
12	Victory Bl	Hayvenhurst Av	Balboa Bl	60,000	6	40,080	0.668	B
13	Victory Bl	Lindley Av	Reseda Bl	60,000	6	37,588	0.626	B
14	Balboa Bl	Victory Bl	Vanowen St	60,000	6	30,536	0.509	A
VA HOSPITAL WRP								
15	Woodley Av	Sherman Way	Saticoy St	60,000	4	26,955	0.449	A
16	Roscoe Bl	Woodley Av	Hayvenhurst Av	60,000	6	42,282	0.705	C
17	Roscoe Bl	Woodley Av	Haskell Av	60,000	6	47,814	0.797	C
18	Haskell Av	Roscoe Bl	Parthenia St	30,000	4	6,818	0.227	A
19	Haskell Av	Nordhoff St	Plummer St	30,000	4	10,482	0.349	A
PIERCE COLLEGE WRP								
20	Victory Bl	Reseda Bl	Wilbur Av	50,000	5	37,340	0.747	C
21	Victory Bl	Winnetka Av	Mason St/Stadium Way	60,000	6	37,739	0.629	B

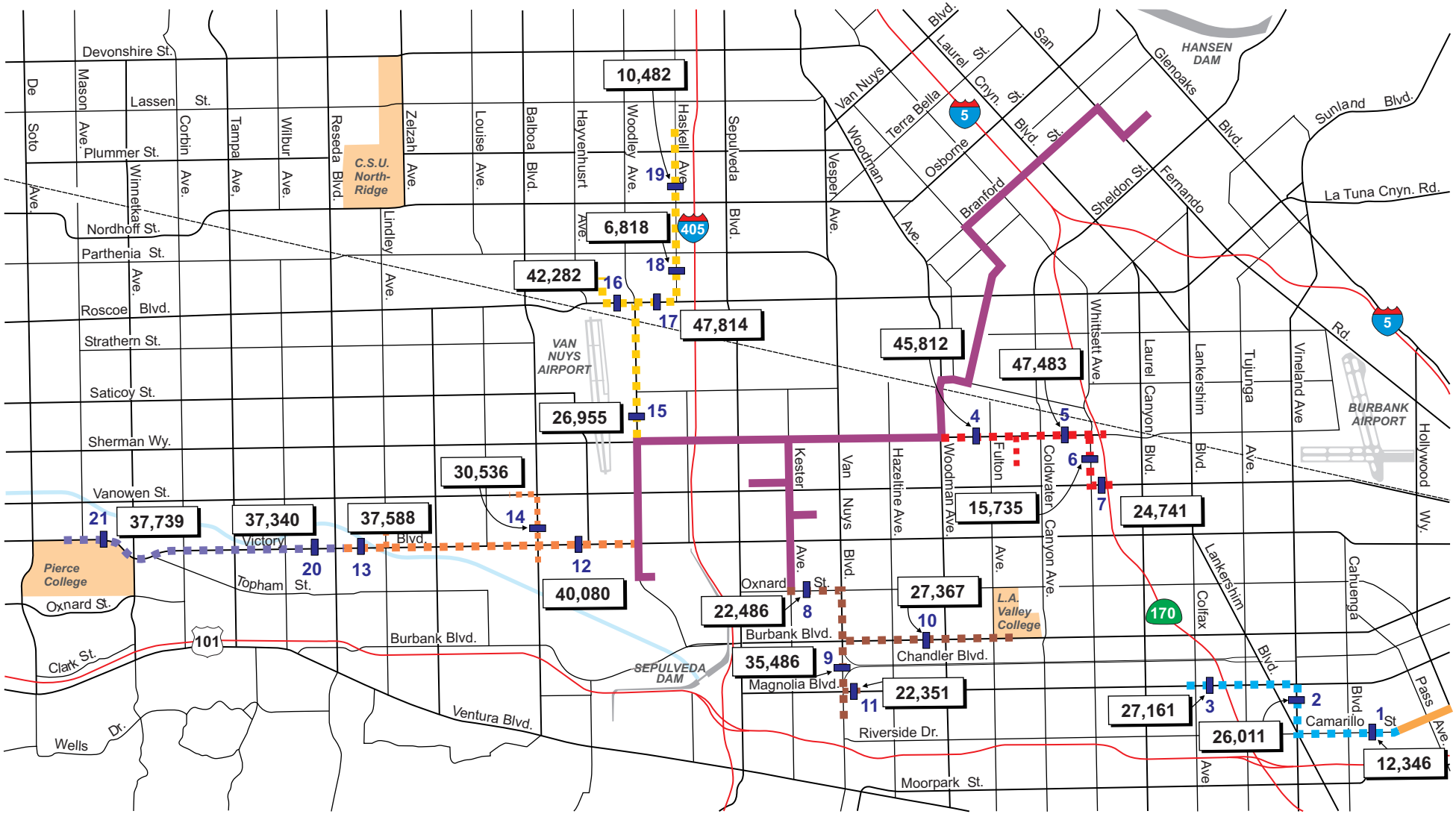

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Figure 3

Existing Average Daily Traffic Volumes

Existing Peak-Hour Vehicle Volumes

The peak hour volumes for the a.m. peak (between the hours of 7:00 a.m. to 9:00 a.m.) and the p.m. peak (between the hours of 4:00 p.m. to 6:00 p.m.) for the study roadway segments create similar traffic operations characteristics to that of daily conditions. On average, route segments along Sherman Way, Victory Boulevard, and Roscoe Boulevard have the highest volumes. The a.m. and p.m. peak hour volumes and the associated level of service values are provided in Table 4.

Table 4 – Existing (2012) Peak-Hour Vehicle Volumes and Level of Service

	Segment	From	To	AM Peak Hour					PM Peak Hour				
				# of Lanes	Capacity	Volumes	V/C	LOS	# of Lanes	Capacity	Volumes	V/C	LOS
NORTH HOLLYWOOD WRP													
1	Camarillo St	Cahuenga Bl	Vineland Av/Lankershim Bl	2	900	990	1.100	**F**	2	900	1,029	1.143	**F**
2	Vineland Av	Camarillo St	Magnolia Bl	6	4,500	1,683	0.374	A	6	4,500	1,833	0.407	A
3	Magnolia Bl	SR-170 Freeway	Colfax Av	4	2,500	1,841	0.736	C	4	2,500	2,045	0.818	D
VALLEY PLAZA PARK WRP													
4	Sherman Way	Woodman Av	Fulton Av	5	3,125	3,057	0.978	**E**	5	3,125	3,234	1.035	**F**
5	Sherman Way	Coldwater Canyon Av	Whitsett Av	5	3,125	2,927	0.937	**E**	5	3,125	3,253	1.041	**F**
6	Whitsett Av	Sherman Way	Vanowen St	4	2,500	1,410	0.564	A	4	2,500	1,355	0.542	A
7	Vanowen St	Whitsett Av	SR-170 Freeway	4	2,500	1,832	0.733	C	4	2,500	2,135	0.854	D
VAN NUYS-SHERMAN OAKS PARK WRP													
8	Oxnard St	Kester Av	Van Nuys Bl	4	2,500	1,599	0.640	B	4	2,500	1,774	0.710	C
9	Van Nuys Bl	Clark St	Weddington St	4	2,500	2,328	0.931	**E**	4	2,500	2,534	1.014	**F**
10	Burbank Bl	Hazeltine Av	Woodman Av	4	2,500	2,212	0.885	D	4	2,500	2,175	0.870	D
11	Magnolia Bl	Van Nuys Bl	Hazeltine Av	4	2,500	2,202	0.881	D	4	2,500	2,029	0.812	D
RESEDA PARK WRP													
12	Victory Bl	Hayvenhurst Av	Balboa Bl	5	3,125	3,468	1.110	**F**	6	4,500	3,252	0.723	C
13	Victory Bl	Lindley Av	Reseda Bl	6	4,500	3,268	0.726	C	6	4,500	3,128	0.695	B
14	Balboa Bl	Victory Bl	Vanowen St	5	3,125	2,406	0.770	C	5	3,125	2,420	0.774	C
VA HOSPITAL WRP													
15	Woodley Av	Sherman Way	Saticoy St	4	2,500	2,296	0.918	**E**	4	2,500	2,091	0.836	D
16	Roscoe Bl	Woodley Av	Hayvenhurst Av	6	4,500	3,436	0.764	C	6	4,500	3,126	0.695	B
17	Roscoe Bl	Woodley Av	Haskell Av	6	4,500	3,585	0.797	C	6	4,500	3,361	0.747	C
18	Haskell Av	Roscoe Bl	Parthenia St	4	2,500	765	0.306	A	4	2,500	579	0.232	A
19	Haskell Av	Nordhoff St	Plummer St	4	2,500	1,416	0.566	A	4	2,500	878	0.351	A
PIERCE COLLEGE WRP													
20	Victory Bl	Reseda Bl	Wilbur Av	5	3,125	3,099	0.992	**E**	5	3,125	3,152	1.009	**F**
21	Victory Bl	Winnetka Av	Mason St/Stadium Way	6	4,500	2,982	0.663	B	6	4,500	3,198	0.711	C

As indicated by the LOS values in the right-most column of Table 4, during the a.m. peak hour seven of the 21 roadway segments operate at poor levels of service (LOS E or F):

- Segments 1, 4, 5, 9, 12, 15, and 20 operate at LOS E or F
- Segments 3, 7, 10, 11, 13, 14, 16, and 17 operate at LOS C or D
- Segments 2, 6, 8, 18, 19, and 21 operate at LOS A or B.

During the p.m. peak hour, five of the 21 roadway segments operate at LOS E or F:

- Segments 1, 4, 5, 9, and 20 operate at LOS E or F
- Segments 3, 7, 8, 10, 11, 12, 14, 15, 17, and 21 operate at LOS C or D
- Segments 2, 6, 13, 16, 18, and 19 operate at LOS A or B.

Segment 12 has the highest v/c ratio of 1.110 during the a.m. peak hour. Segment 1 has the highest v/c ratio of 1.143 during the p.m. peak hour.

3. Proposed Project Corridor Construction Impact Analysis

This report section provides information on future conditions without and with Project construction activities and significant traffic impacts along the proposed Project routes. A discussion is provided on the impacts that could occur under typical Project construction-related lane closures along the proposed corridor.

3.1 Future Baseline Conditions

The analysis of future baseline conditions included the addition of traffic growth, based on projections within the Metro 2010 Congestion Management Program (as defined by the methodology discussion in Section 1 of this report). The highest CMP traffic growth rates in the study area were multiplied by a factor of two to provide a conservative estimate of regional traffic growth plus trips expected to be generated by proposed area projects. A list of the area projects compiled from information maintained by Development Review staff at the City of Los Angeles Department of Transportation is provided in Appendix B.

Project construction activity would be completed by year 2022. Therefore, that year was used for future baseline conditions.

Based on the application of traffic growth rates, baseline conditions for the study roadway segments were computed. The resulting volumes and associated level of service values are provided in Table 5.

Table 5 – Future (2022) without Project Conditions - Peak-Hour Vehicle Volumes and Levels of Service

	Segment	From	To	AM Peak Hour					PM Peak Hour				
				# of Lanes	Capacity	Volumes	V/C	LOS	# of Lanes	Capacity	Volumes	V/C	LOS
NORTH HOLLYWOOD WRP													
1	Camarillo St	Cahuenga Bl	Vineland Av/Lankershim Bl	2	900	1,097	1.219	**F**	2	900	1,140	1.267	**F**
2	Vineland Av	Camarillo St	Magnolia Bl	6	4,500	1,865	0.414	A	6	4,500	2,031	0.451	A
3	Magnolia Bl	SR-170 Freeway	Colfax Av	4	2,500	2,040	0.816	D	4	2,500	2,266	0.906	**E**
VALLEY PLAZA PARK WRP													
4	Sherman Way	Woodman Av	Fulton Av	5	3,125	3,387	1.084	**F**	5	3,125	3,583	1.147	**F**
5	Sherman Way	Coldwater Canyon Av	Whitsett Av	5	3,125	3,243	1.038	**F**	5	3,125	3,604	1.153	**F**
6	Whitsett Av	Sherman Way	Vanowen St	4	2,500	1,562	0.625	B	4	2,500	1,501	0.601	B
7	Vanowen St	Whitsett Av	SR-170 Freeway	4	2,500	2,030	0.812	D	4	2,500	2,366	0.946	**E**
VAN NUYS-SHERMAN OAKS PARK WRP													
8	Oxnard St	Kester Av	Van Nuys Bl	4	2,500	1,772	0.709	C	4	2,500	1,966	0.786	C
9	Van Nuys Bl	Clark St	Weddington St	4	2,500	2,579	1.032	**F**	4	2,500	2,808	1.123	**F**
10	Burbank Bl	Hazeltine Av	Woodman Av	4	2,500	2,451	0.980	**E**	4	2,500	2,410	0.964	**E**
11	Magnolia Bl	Van Nuys Bl	Hazeltine Av	4	2,500	2,440	0.976	**E**	4	2,500	2,248	0.899	D
RESEDA PARK WRP													
12	Victory Bl	Hayvenhurst Av	Balboa Bl	5	3,125	3,843	1.230	**F**	6	4,500	3,603	0.801	D
13	Victory Bl	Lindley Av	Reseda Bl	6	4,500	3,621	0.805	D	6	4,500	3,466	0.770	C
14	Balboa Bl	Victory Bl	Vanowen St	5	3,125	2,666	0.853	D	5	3,125	2,681	0.858	D
VA HOSPITAL WRP													
15	Woodley Av	Sherman Way	Saticoy St	4	2,500	2,544	1.018	**F**	4	2,500	2,317	0.927	**E**
16	Roscoe Bl	Woodley Av	Hayvenhurst Av	6	4,500	3,807	0.846	D	6	4,500	3,464	0.770	C
17	Roscoe Bl	Woodley Av	Haskell Av	6	4,500	3,972	0.883	D	6	4,500	3,724	0.828	D
18	Haskell Av	Roscoe Bl	Parthenia St	4	2,500	848	0.339	A	4	2,500	642	0.257	A
19	Haskell Av	Nordhoff St	Plummer St	4	2,500	1,569	0.628	B	4	2,500	973	0.389	A
PIERCE COLLEGE WRP													
20	Victory Bl	Reseda Bl	Wilbur Av	5	3,125	3,434	1.099	**F**	5	3,125	3,492	1.118	**F**
21	Victory Bl	Winnetka Av	Mason St/Stadium Way	6	4,500	3,304	0.734	C	6	4,500	3,543	0.787	C

For future (2022) without Project conditions, nine roadway segments would operate at a LOS value of LOS E or F during the a.m. peak hour (two more than under existing conditions). During the p.m. peak hour, nine roadway segments would operate at LOS E or F (four more than under existing conditions) under future (2022) without Project conditions.

The added locations that would operate at LOS E or F in the future without Project conditions are as follows:

- Segment 3 (Magnolia Boulevard) operations would worsen from LOS D to E during the p.m. peak hour.
- Segment 7 (Vanowen Street) operations would worsen from LOS D to E during the p.m. peak hour.
- Segment 10 (Burbank Boulevard) operations would worsen from LOS D to E during the a.m. peak hour and from LOS D to E during the p.m. peak hour.
- Segment 11 (Magnolia Boulevard) operations would worsen from LOS D to E during the a.m. peak hour.
- Segment 15 (Woodley Avenue) operations would worsen from LOS D to LOS E in the p.m. peak hour.

3.2 Project Trip Generation Methodology

Project trip generation calculations included construction employee vehicle trips and construction truck trip estimates. The trip generation totals were determined based on the most intense period of construction activity for the project. Truck volumes were multiplied by a factor of 2.5 to estimate the number of passenger car equivalent trips, consistent with the SCAG *Heavy Duty Truck Model* analysis and other truck studies in the region.

For construction, the maximum number of employees on project roadways segment sites would be 12 and the maximum truck trip activity would be 50 round trips per day. Seven of the field personnel will arrive to the site by either construction truck or dump truck.

3.3 Project Trip Generation Calculations

In calculating peak-hour trips for the project, it is assumed that a majority of the construction employees will arrive and depart the sites or roadway segment via personal vehicles. The morning arrival by employees is assumed to overlap the a.m. peak hour by 50 percent, with the remaining 50 percent of employees assumed to be at the sites before 7:00 a.m. The same would occur during the p.m. peak hour, with 50 percent of employees assumed to depart the site before 4:00 p.m. Therefore, the same reduction was taken for both peak periods.

During project construction activity, daily truck haul activities will occur over an eight-hour period that begins during the a.m. peak period, and is complete during the p.m. peak period. Trucks with construction equipment will travel to the site prior to the a.m. peak period and 50 percent would depart during the p.m. peak period.

As shown in Table 6, project construction would generate a daily total of 60 passenger car equivalent trips, with seven trips occurring during the a.m. peak hour and 17 trips occurring during the p.m. peak hour.

Table 6 – Project Trip Generation

TRIP GENERATION	AVERAGE DAILY TRIPS			AM PEAK HOUR						PM PEAK HOUR					
				Truck Trips*		Employee Trips		Total Trips		Truck Trips*		Employee Trips		Total Trips	
	Trucks*	Employee	Total	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Field Personnel	0	10	10	0	0	3	0	3	0	0	0	0	3	0	3
Haul Trucks	30	0	30	2	2	0	0	2	2	2	2	0	0	2	2
Construction Trucks	20	0	20	0	0	0	0	0	0	0	10	0	0	0	10
TOTAL TRIPS	**50**	**10**	**60**	**2**	**2**	**3**	**0**	**5**	**2**	**2**	**12**	**0**	**3**	**2**	**15**

** Truck trips include a Passenger Car Equivalency (PCE) factor of 2.5.*

Field Personnel - Inputs were 12 field personnel for the average day of construction. Four personnel arrive in the four construction trucks and three personnel arrive in the three dump trucks. The remaining five personnel arrive in two construction pick-up trucks and three personal vehicles.

3.4 Proposed Construction Methods

The work areas necessary to install the water pipelines along the proposed Project routes are planned to be 10 to 12 feet in width. This total width would require the closure of one or two travel lanes, based on existing width of the travel lanes and adjacent on-street parking within each segment. In order to provide a conservative analysis, the width of work areas was assumed to be the equivalent of two travel lanes or one travel lane and the adjacent on-street parking areas. Construction activity would occur Monday through Friday from approximately 7:00 a.m. to 3:30 p.m. Thus, the closure of one or two travel lanes would occur during the a.m. peak hour but not during the p.m. peak hour.

3.5 Future with Project Conditions

The assumed lane capacity reductions caused by Project construction during the a.m. peak hour were used to modify the capacity values within the volume-to-capacity (v/c) calculations for each of the study roadway segments. The trip generation of construction employee commute vehicles and construction trucks were also added to the study area. Table 7 provides the results of this analysis.

Table 7 – Future (2022) with Project Conditions – Peak-Hour Vehicle Volumes and Levels of Service

Segment		From	To	AM Peak Hour					PM Peak Hour				
				# of Lanes	Capacity	Volumes	V/C	LOS	# of Lanes	Capacity	Volumes	V/C	LOS
NORTH HOLLYWOOD WRP													
1	Camarillo St	Cahuenga Bl	Vineland Av/Lankershim Bl	2	900	1,104	1.227	**F**	2	900	1,157	1.286	**F**
2	Vineland Av	Camarillo St	Magnolia Bl	4	2,500	1,872	0.749	C	6	4,500	2,048	0.455	A
3	Magnolia Bl	SR-170 Freeway	Colfax Av	3	1,350	2,047	1.516	**F**	4	2,500	2,283	0.913	**E**
VALLEY PLAZA PARK WRP													
4	Sherman Way	Woodman Av	Fulton Av	4	2,500	3,394	1.358	**F**	5	3,125	3,600	1.152	**F**
5	Sherman Way	Coldwater Canyon Av	Whitsett Av	4	2,500	3,250	1.300	**F**	5	3,125	3,621	1.159	**F**
6	Whitsett Av	Sherman Way	Vanowen St	3	1,350	1,569	1.162	**F**	4	2,500	1,518	0.607	B
7	Vanowen St	Whitsett Av	SR-170 Freeway	3	1,350	2,037	1.509	**F**	4	2,500	2,383	0.953	**E**
VAN NUYS-SHERMAN OAKS PARK WRP													
8	Oxnard St	Kester Av	Van Nuys Bl	3	1,350	1,779	1.318	**F**	4	2,500	1,983	0.793	C
9	Van Nuys Bl	Clark St	Weddington St	3	1,350	2,586	1.916	**F**	4	2,500	2,825	1.130	**F**
10	Burbank Bl	Hazeltine Av	Woodman Av	3	1,350	2,458	1.821	**F**	4	2,500	2,427	0.971	**E**
11	Magnolia Bl	Van Nuys Bl	Hazeltine Av	3	1,350	2,447	1.812	**F**	4	2,500	2,265	0.906	**E**
RESEDA PARK WRP													
12	Victory Bl	Hayvenhurst Av	Balboa Bl	4	2,500	3,850	1.540	**F**	6	4,500	3,620	0.804	D
13	Victory Bl	Lindley Av	Reseda Bl	4	2,500	3,628	1.451	**F**	6	4,500	3,483	0.774	C
14	Balboa Bl	Victory Bl	Vanowen St	4	2,500	2,673	1.069	**F**	5	3,125	2,698	0.863	D
VA HOSPITAL WRP													
15	Woodley Av	Sherman Way	Saticoy St	3	1,350	2,551	1.890	**F**	4	2,500	2,334	0.934	**E**
16	Roscoe Bl	Woodley Av	Hayvenhurst Av	4	2,500	3,814	1.526	**F**	6	4,500	3,481	0.773	C
17	Roscoe Bl	Woodley Av	Haskell Av	4	2,500	3,979	1.592	**F**	6	4,500	3,741	0.831	D
18	Haskell Av	Roscoe Bl	Parthenia St	3	1,350	855	0.633	B	4	2,500	659	0.263	A
19	Haskell Av	Nordhoff St	Plummer St	3	1,350	1,576	1.167	**F**	4	2,500	990	0.396	A
PIERCE COLLEGE WRP													
20	Victory Bl	Reseda Bl	Wilbur Av	3	1,350	3,441	2.549	**F**	5	3,125	3,509	1.123	**F**
21	Victory Bl	Winnetka Av	Mason St/Stadium Way	4	2,500	3,311	1.324	**F**	6	4,500	3,560	0.791	C

For future (2022) with Project conditions, 19 of the 21 roadway segments would operate at poor levels of service of F during the a.m. peak hour with Project construction. Although the lane closure would not occur during the p.m. peak hour, 10 of the 21 roadway segments would continue to operate at LOS E or F (one more than under future without Project conditions, due to construction traffic).

When comparing the future (2022) without Project construction to future (2022) with Project construction scenarios, the reduced roadway capacity during the a.m. peak hour would impact the Project corridor roadways as described below.

- Segment 1 (Camarillo Street) would continue to operate at LOS F during the a.m. peak hour with worsening operations.
- Segment 3 (Magnolia Boulevard) operations would worsen from LOS D to F during the a.m. peak hour.
- Segment 4 (Sherman Way) would continue to operate at LOS F during the a.m. peak hour with worsening operations.
- Segment 5 (Sherman Way) would continue to operate at LOS F during the a.m. peak hour with worsening operations.
- Segment 6 (Whitsett Avenue) operations would worsen from LOS B to F during the a.m. peak hour.
- Segment 7 (Vanowen Street) operations would worsen from LOS D to F during the a.m. peak hour.
- Segment 8 (Oxnard Street) operations would worsen from LOS C to F during the a.m. peak hour.
- Segment 9 (Van Nuys Boulevard) would continue to operate at LOS F during the a.m. peak hour with worsening operations.
- Segment 10 (Burbank Boulevard) operations would worsen from LOS E to F during the a.m. peak hour.
- Segment 11 (Magnolia Boulevard) operations would worsen from LOS E to F during the a.m. peak hour.
- Segment 12 (Victory Boulevard) would continue to operate at LOS F during the a.m. peak hour with worsening operations.
- Segment 13 (Victory Boulevard) operations would worsen from LOS D to F during the a.m. peak hour.
- Segment 14 (Burbank Boulevard) operations would worsen from LOS D to F during the a.m. peak hour.
- Segment 15 (Woodley Avenue) would continue to operate at LOS F during the a.m. peak hour with worsening operations.
- Segment 16 (Roscoe Boulevard) operations would worsen from LOS D to F during the a.m. peak hour.
- Segment 17 (Roscoe Boulevard) operations would worsen from LOS D to F during the a.m. peak hour.
- Segment 19 (Haskell Avenue) operations would worsen from LOS B to LOS F during the a.m. peak hour.
- Segment 20 (Victory Boulevard) would continue to operate at LOS F during the a.m. peak hour with worsening operations.
- Segment 21 (Victory Boulevard) operations would worsen from LOS C to F during the a.m. peak hour.

During the p.m. peak hour, the addition of construction traffic would worsen Project corridor roadways LOS at one location:

- Segment 11 (Magnolia Boulevard) operations would worsen from LOS D to E during the p.m. peak hour.

Figure 4 provides an illustration of the future with Project daily roadway volumes at the study roadway segments.

3.6 Traffic Flow and Analysis of Lane Closures

Key Access Issues

The proposed routes would be adjacent to schools and commercial, residential, industrial, and recreational/open space land uses. Access to these land uses would be partially restricted during the construction period. Left-turn movements at intersection approaches and at mid-block driveway locations would likely be impacted, depending on the location of the planned trenching. These details will be defined further with the future development construction plans.

Typical Lane Closures

Project construction is anticipated to result in the closing of one to two lanes along the water pipeline routes. No complete street closures are currently anticipated. All construction closures will be coordinated with and approved by the City of Los Angeles and Caltrans (for State Route facilities or routes that affect freeway ramp intersections).

Roadway Impacts

Several arterials, which provide both local access and sub-regional travel, will be temporarily impacted with the proposed Project construction. The reduced roadway capacity and addition of construction traffic will temporarily impact the following analyzed Project corridor roadways:

- Segment 1 (Camarillo Street) would continue to operate at LOS F during the a.m. peak hour with worsening operations.
- Segment 3 (Magnolia Boulevard) operations would worsen from LOS D to F during the a.m. peak hour.
- Segment 4 (Sherman Way) would continue to operate at LOS F during the a.m. peak hour with worsening operations.
- Segment 5 (Sherman Way) would continue to operate at LOS F during the a.m. peak hour with worsening operations.
- Segment 6 (Whitsett Avenue) operations would worsen from LOS B to F during the a.m. peak hour.
- Segment 7 (Vanowen Street) operations would worsen from LOS D to F during the a.m. peak hour.
- Segment 8 (Oxnard Street) operations would worsen from LOS C to F during the a.m. peak hour.

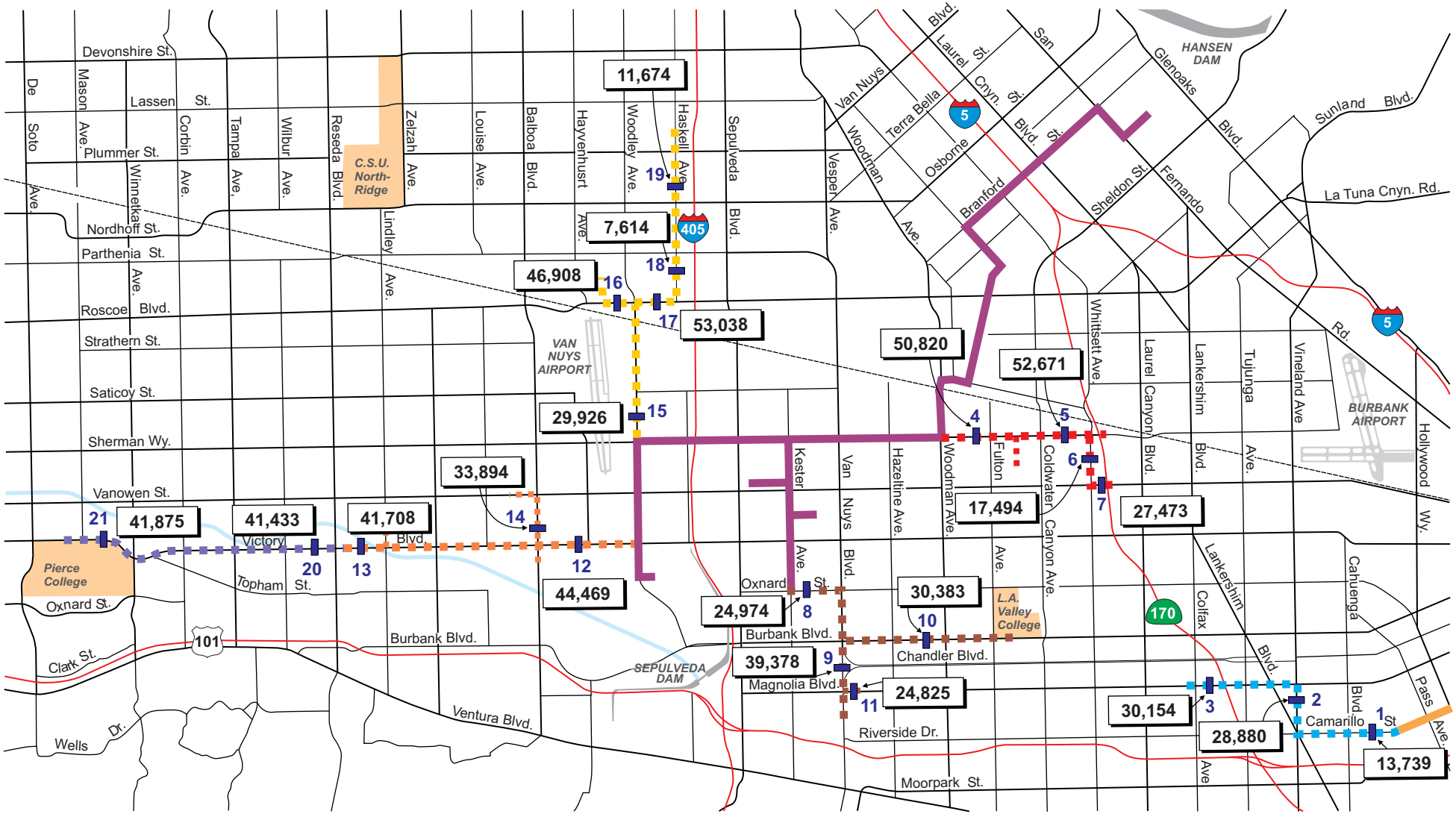

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Figure 4

Future with Project Average Daily Traffic Volumes

- Segment 9 (Van Nuys Boulevard) would continue to operate at LOS F during the a.m. peak hour with worsening operations.
- Segment 10 (Burbank Boulevard) operations would worsen from LOS E to F during the a.m. peak hour.
- Segment 11 (Magnolia Boulevard) operations would worsen from LOS E to F during the a.m. peak hour and from LOS D to E during the p.m. peak hour.
- Segment 12 (Victory Boulevard) would continue to operate at LOS F during the a.m. peak hour with worsening operations.
- Segment 13 (Victory Boulevard) operations would worsen from LOS D to F during the a.m. peak hour.
- Segment 14 (Burbank Boulevard) operations would worsen from LOS D to F during the a.m. peak hour.
- Segment 15 (Woodley Avenue) would continue to operate at LOS F during the a.m. peak hour with worsening operations.
- Segment 16 (Roscoe Boulevard) operations would worsen from LOS D to F during the a.m. peak hour.
- Segment 17 (Roscoe Boulevard) operations would worsen from LOS D to F during the a.m. peak hour.
- Segment 19 (Haskell Avenue) operations would worsen from LOS B to LOS F in the a.m. peak hour.
- Segment 20 (Victory Boulevard) would continue to operate at LOS F during the a.m. peak hour with worsening operations.
- Segment 21 (Victory Boulevard) operations would worsen from LOS C to F during the a.m. peak hour.

Recommended Actions

The following actions would mitigate any potential significant Project impacts on the analyzed study segments, where LOS values would be reduced to or within LOS E or F during construction:

- Directional capacity (generally southbound/westbound in the a.m. peak and northbound/eastbound in the p.m. peak) should be considered in roadway closure planning where work area placement is flexible. The provision of the original one-way capacity of the affected roadway (in number of travel lanes) in the peak direction, while providing a reduced number of travel lanes for the opposite direction of traffic flow (non-peak direction), would help to alleviate any potential poor LOS conditions.
- Left-turn lanes and other approach lanes (as feasible) should be maintained in close vicinity to major intersections along the proposed Project routes.
- Considerations for maintained access to adjacent residential driveways, as feasible, should be incorporated into the construction planning process.
- Where physical mitigation measures cannot be provided on roadway segments that would operate at LOS E or F during construction, peak-hour restrictions on construction activity would be necessary where feasible based on construction details. Otherwise, construction closure plans would need to minimize the effects on roadway capacity to the satisfaction of the local jurisdiction, and traffic diversions plans to other parallel roadways may also be necessary.

Construction activities could potentially interfere with emergency response by ambulance, fire, paramedic, and police vehicles. The loss of travel lanes and the resulting increase in congestion could lengthen the response time required for emergency vehicles passing through the construction zone. Moreover, there is a possibility that emergency services may be needed at a location where the related access route is temporarily blocked by the construction zone. Providing directional capacity will also help to mitigate any significant impacts to emergency vehicle access.

3.7 Potential Impacts to Pedestrian and Bicycle Access

Project construction could potentially impact pedestrian movements at closed sidewalks and crosswalk locations. It is important that marked pedestrian crosswalks be maintained throughout Project construction, especially where a school or transit stop is located nearby. They should be replaced temporarily, immediately beyond the construction work area, unless a new mid-block crosswalk would be created by this replacement.

Woodley Avenue currently has bicycle lanes on the VA Hospital project route. The City of Los Angeles 2010 Bike Plan proposes 200 miles of bikeways every five years for the next 35 years. The Bike Plan proposes bicycle lanes on the following locations:

- Camarillo Street on the North Hollywood Park project route;
- Sherman Way on the Valley Plaza project route;
- Van Nuys Boulevard on the Van Nuys-Sherman Oaks Park project route;
- Roscoe Boulevard on the VA Hospital project route;
- Balboa Boulevard and Lindley Avenue on the Reseda Park project route.

If bikeways are provided prior to the project construction, it is likely that the Project will include the closure of these lanes. If these lanes are closed, bicycle lane closure signs and detour signs should be provided.

3.8 Potential Transit Service Impacts

The study area is served by several public transit agencies which include Metro, LADOT Dash, and the City of Burbank.

Potential Turning Movement Restrictions

Project construction would potentially disrupt transit service along the study roadway segments. All of the transit lines listed on Table 8 may be affected by the potential lane closures and potential left-turn restrictions.

Potential Bus Stop Disruptions

Where bus stops become affected by Project construction activities (blocked bus stops, diverted traffic is sent into bus stop curb lane areas), temporary bus stop closures should be accommodated with replacement bus stops outside of the immediate work area. The temporary stops, however, would need to be located along wide portions of the roadway where the maximum number of travel lanes can be accommodated during construction. Unsafe mid-block pedestrian crossing patterns should not be created by the temporary stops.

Table 8 – Existing Study Area Transit Service

Line	From / To	To / From	Via	Approximate Peak Frequency
Metro				
152	Woodland Hills	North Hollywood	Roscoe Blvd / Vineland Ave	8 to 18 minutes
154	Tarzana	Burbank	Burbank Blvd / Oxnard St	60 minutes
155	Sherman Oaks	Burbank	Riverside Dr / Olive Ave	30 to 60 minutes
156	Hollywood	Van Nuys	Burbank Blvd / Chandler Blvd / Vineland Ave	23 to 41 minutes
158	Sherman Oaks	Chatsworth	Devonshire St / Woodman Ave	30 to 35 minutes
163/363	West Hills	Sun Valley	Sherman Way	12 to 20 minutes
164	West Hills	Burbank	Victory Blvd	10 to 22 minutes
165	West Hills	Burbank	Vanowen St	10 to 18 minutes
166/364	Chatsworth	Sun Valley	Nordhoff St / Osborne St	12 to 20 minutes
167	Studio City	Chatsworth	Plummer St / Woodman Ave / Roscoe Ave / Coldwater Canyon Ave	40 to 50 minutes
169	West Hills	Sunland	Saticoy Ave / Van Nuys Blvd / Chase St	60 minutes
183	Sherman Oaks	Glendale	Magnolia Blvd / San Fernando Rd	26 to 60 minutes
233	Sherman Oaks	Lake View Terrace	Van Nuys Blvd	12 to 14 minutes
236	Encino	Sylmar Station	Balboa Blvd	30 to 60 minutes
237	Encino	Granada Hills/Sherman Oaks	Van Nuys Blvd / Victory Blvd / Woodley Ave	60 minutes
239	Encino	Sylmar Station	White Oak Ave	60 minutes
240	Northridge	Universal City	Reseda Blvd	15 to 24 minutes
242	Woodland Hills	Porter Ranch	Tampa Ave	25 to 60 minutes
243	Woodland Hills	Porter Ranch	Winnetka Ave	25 to 60 minutes
353	Woodland Hills	North Hollywood	Roscoe Blvd / Lankershim Blvd	11 to 50 minutes
656 *	Panorama City	Hollywood	Van Nuys Blvd / Burbank Blvd	**
Metro Rapid Service				
741	Tarzana	Northridge	Reseda Blvd	16 to 18 minutes
761	Westwood	Pacoima	Van Nuys Blvd	10 to 18 minutes
Metro Line Service				
Orange Line	North Hollywood Transit Station	Warner Center	crosses WRP at Camarillo St, Magnolia Blvd, Burbank Blvd, Balboa Blvd, Victory Blvd	4 to 5 minutes
LADOT				
DASH	Panorama City/Van Nuys (Circular Loop)		Van Nuys Blvd / Parthenia St / Sherman Way / Hazeltine Ave / Victory Blvd	20 minutes
DASH	Van Nuys/Studio City (Circular Loop)		Van Nuys Blvd / Hazeltine Ave / Oxnard St	30 minutes
CE 549 **	San Fernando Valley	Pasadena	Burbank Blvd / Lankershim Blvd / Riverside Dr	30 minutes
CE 573 **	Encino/Mission Hills	Westwood/Century City	Balboa Blvd / I-405 / Sepulveda Blvd	15 to 45 minutes
CE 574 **	Sylmar	LAX/El Segundo	Chatsworth St / Sepulveda Blvd / Brand Blvd / Truman St/ Hubbard St	30 to 50 minutes
Burbank Bus				
NOHo-Media District	North Hollywood Transit Station	Burbank Media District	Magnolia Blvd	12 minutes

Source: Metro - Los Angeles County Metropolitan Transportation Authority, Los Angeles Department of Transportation, and Burbank Bus.

The 300-series Metro lines (limited service) operate during peak periods only.

** This route operates during the late-night service hours only. Therefore, peak period frequency is negligible.*

*** Commuter Express routes temporary revisions due to Encino Park and Ride parking temporary closed for construction effective November 21, 2011.*

4. Existing (2012) Plus Project Conditions

A supplemental analysis was included in this document to comply with court rulings in the recent *Sunnyvale* case regarding California Environmental Quality Act (CEQA) baseline analysis that requires that the existing conditions period matches the date (year) of public notification.

For the existing plus Project analysis, KOA used the existing roadway segment volumes and added the trip generation of construction employee commute vehicles and contruction trucks.

The assumed lane capacity reductions caused by Project construction during the a.m. peak hour were used to modify the capacity values within the volume-to-capacity (v/c) calculations for each of the study roadway segments. The trip generation of construction employee commute vehicles was also added to the study area.

4.1 Existing (2012) Plus Project Conditions

Table 9 provides the analysis of Project construction effects on LOS values for the existing plus Project analysis.

Table 9 – Existing (2012) Plus Project Conditions – Peak-Hour LOS

Segment		From	To	AM Peak Hour					PM Peak Hour				
				# of Lanes	Capacity	Volumes	V/C	LOS	# of Lanes	Capacity	Volumes	V/C	LOS
NORTH HOLLYWOOD WRP													
1	Camarillo St	Cahuenga Bl	Vineland Av/Lankershim Bl	2	900	997	1.108	**F**	2	900	1,046	1.162	**F**
2	Vineland Av	Camarillo St	Magnolia Bl	4	2500	1,690	0.676	B	6	4500	1,850	0.411	A
3	Magnolia Bl	SR-170 Freeway	Colfax Av	3	1350	1,848	1.369	**F**	4	2500	2,062	0.825	D
VALLEY PLAZA PARK WRP													
4	Sherman Way	Woodman Av	Fulton Av	4	2500	3,064	1.226	**F**	5	3125	3,251	1.040	**F**
5	Sherman Way	Coldwater Canyon Av	Whitsett Av	4	2500	2,934	1.174	**F**	5	3125	3,270	1.046	**F**
6	Whitsett Av	Sherman Way	Vanowen St	3	1350	1,417	1.050	**F**	4	2500	1,372	0.549	A
7	Vanowen St	Whitsett Av	SR-170 Freeway	3	1350	1,839	1.362	**F**	4	2500	2,152	0.861	D
VAN NUYS-SHERMAN OAKS PARK WRP													
8	Oxnard St	Kester Av	Van Nuys Bl	3	1350	1,606	1.190	**F**	4	2500	1,791	0.716	C
9	Van Nuys Bl	Clark St	Weddington St	3	1350	2,335	1.730	**F**	4	2500	2,551	1.020	**F**
10	Burbank Bl	Hazeltine Av	Woodman Av	3	1350	2,219	1.644	**F**	4	2500	2,192	0.877	D
11	Magnolia Bl	Van Nuys Bl	Hazeltine Av	3	1350	2,209	1.636	**F**	4	2500	2,046	0.818	D
RESEDA PARK WRP													
12	Victory Bl	Hayvenhurst Av	Balboa Bl	4	2500	3,475	1.390	**F**	6	4500	3,269	0.726	C
13	Victory Bl	Lindley Av	Reseda Bl	4	2500	3,275	1.310	**F**	6	4500	3,145	0.699	B
14	Balboa Bl	Victory Bl	Vanowen St	4	2500	2,413	0.965	**E**	5	3125	2,437	0.780	C
VA HOSPITAL WRP													
15	Woodley Av	Sherman Way	Saticoy St	3	1350	2,303	1.706	**F**	4	2500	2,108	0.843	D
16	Roscoe Bl	Woodley Av	Hayvenhurst Av	4	2500	3,443	1.377	**F**	6	4500	3,143	0.698	B
17	Roscoe Bl	Woodley Av	Haskell Av	4	2500	3,592	1.437	**F**	6	4500	3,378	0.751	C
18	Haskell Av	Roscoe Bl	Parthenia St	3	1350	772	0.572	A	4	2500	596	0.238	A
19	Haskell Av	Nordhoff St	Plummer St	3	1350	1,423	1.054	**F**	4	2500	895	0.358	A
PIERCE COLLEGE WRP													
20	Victory Bl	Reseda Bl	Wilbur Av	3	1350	3,106	2.301	**F**	5	3125	3,169	1.014	**F**
21	Victory Bl	Winnetka Av	Mason St/Stadium Way	4	2500	2,989	1.196	**F**	6	4500	3,215	0.714	C

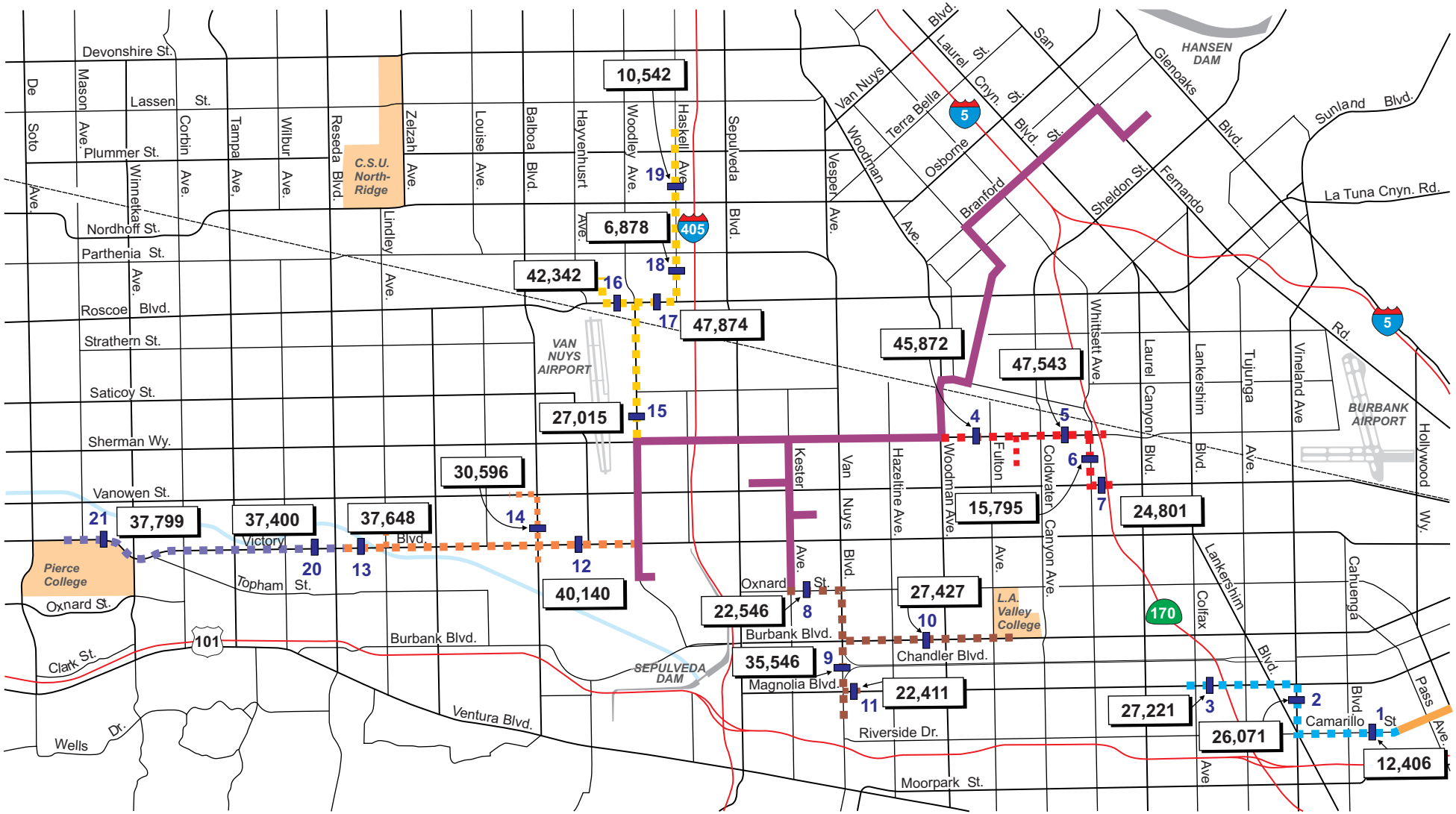
During the a.m. peak hour, 19 roadway segments would operate at poor levels of service of E or F (12 more than under existing conditions). During the p.m. hour, five roadway segments would operate at poor LOS E or F (the same number as under existing conditions).

The following analyzed roadway segments are significantly impacted under the existing plus Project analysis:

- Segment 1 (Camarillo Street) would continue to operate at LOS F during the a.m. peak hour with worsening operations.
- Segment 3 (Magnolia Boulevard) operations would worsen from LOS C to F during the a.m. peak hour.
- Segment 4 (Sherman Way) operations would worsen from LOS E to F during the a.m. peak hour.

- Segment 5 (Sherman Way) operations would worsen from LOS E to F during the a.m. peak hour.
- Segment 6 (Whitsett Avenue) operations would worsen from LOS A to F during the a.m. peak hour.
- Segment 7 (Vanowen Street) operations would worsen from LOS C to F during the a.m. peak hour.
- Segment 8 (Oxnard Street) operations would worsen from LOS B to F during the a.m. peak hour.
- Segment 9 (Van Nuys Boulevard) operations would worsen from LOS E to F during the a.m. peak hour.
- Segment 10 (Burbank Boulevard) operations would worsen from LOS D to F during the a.m. peak hour.
- Segment 11 (Magnolia Boulevard) operations would worsen from LOS D to F during the a.m. peak hour.
- Segment 12 (Victory Boulevard) would continue to operate at LOS F during the a.m. peak hour with worsening operations.
- Segment 13 (Victory Boulevard) operations would worsen from LOS C to F during the a.m. peak hour.
- Segment 14 (Burbank Boulevard) operations would worsen from LOS C to E during the a.m. peak hour.
- Segment 15 (Woodley Avenue) operations would worsen from LOS E to F during the a.m. peak hour.
- Segment 16 (Roscoe Boulevard) operations would worsen from LOS C to F during the a.m. peak hour.
- Segment 17 (Roscoe Boulevard) operations would worsen from LOS C to F during the a.m. peak hour.
- Segment 19 (Haskell Avenue) operations would worsen from LOS A to LOS F in the a.m. peak hour.
- Segment 20 (Victory Boulevard) operations would worsen from LOS E to F during the a.m. peak hour.
- Segment 21 (Victory Boulevard) operations would worsen from LOS B to F during the a.m. peak hour.

Figure 5 provides the daily volumes for the study roadway segments for the existing plus Project analysis.



LEGEND

- Existing Pipelines
- Existing Pipelines (Burbank)
- North Hollywood Park WRP (14,000')
- Valley Plaza WRP (14,700')
- Van Nuys - Sherman Oaks Park WRP (21,800')
- Reseda Park WRP (24,200')
- VA Hospital WRP (21,400')
- Pierce College WRP (13,600')
- X — Study Segment and Reference Number
- X,XXX — Segment Average Daily Traffic Volume

N

Not to Scale

KOA CORPORATION
PLANNING & ENGINEERING

San Fernando Valley WRP

Figure 5

Existing + Project Average Daily Traffic Volumes

5. Conclusions and Recommendations

5.1 Major Impact Conclusions

The proposed Project will not result in any permanent traffic impacts to area roadway facilities. As such, permanent physical or operations improvements to either study intersections or roadway segments are not recommended. However, the Project will potentially create significant impacts in some areas during construction, as much of the Project construction efforts will consist of excavation, open trenching, and pipeline installation that will occur on roadways that are heavily traveled. This work will reduce capacities on the roadways along the Project construction routes.

There are no measures that can be implemented to make all Project impacts less than significant. These impacts will be temporary in nature and will not have a lasting impact on the study roadways or the adjacent roadway systems, including monitoring stations of the Los Angeles County Congestion Management roadways on area arterials and freeways. Daily roadway and peak-hour volumes have been analyzed to achieve an understanding of the magnitude of potential roadway lane closures during construction.

The following sub-sections summarize the potential traffic impacts within each project roadway corridor along the overall Project routes.

5.2 Pedestrian and Transit Impacts

Construction of the Project could potentially impact pedestrian movements on sidewalks and at crosswalk locations. It is important that marked pedestrian crosswalks be maintained throughout Project construction, especially when a school or transit stop is located nearby. They should be replaced temporarily, immediately beyond the construction work area, unless a new mid-block crosswalk would be created by this replacement.

The Woodley Avenue currently has bicycle lanes on the VA Hospital project route. The City of Los Angeles 2010 Bike Plan proposes 200 miles of bikeways every five years for the next 35 years. The Bike Plan proposes bicycle lanes on the following locations:

- Camarillo Street on the North Hollywood Park project route;
- Sherman Way on the Valley Plaza project route;
- Van Nuys Boulevard on the Van Nuys-Sherman Oaks Park project route;
- Roscoe Boulevard on the VA Hospital project route;
- Balboa Boulevard and Lindley Avenue on the Reseda Park project route.

If bikeways are provided prior to the project construction, it is likely that the Project will include the closure of these lanes. If these lanes are closed and direct alternatives are not provided during construction (with proper detour signage), bicycle lane closure signs should be posted.

The construction activities are also likely to affect public bus transit stops for services provided by Metro, LADOT Dash, and the City of Burbank. These stops would need to be replaced temporarily outside of travel lane closure areas.

5.3 General Impacts to Roadway Facilities

As detailed construction and closure plans for the Project are not yet available, analysis was not conducted of specific intersections, and Project roadway segment analysis was based on anticipated capacity provided during constuction. Capacity will be constricted, in some form, along each Project segment during construction. To help mitigate potentially significant traffic impacts along the Project routes, the following actions are recommended:

- Directional capacity (generally southbound/westbound in the a.m. peak and northbound/eastbound in the p.m. peak) should be considered in roadway closure planning where work area placement is flexible. The provision of the original one-way capacity of the affected roadway (in number of travel lanes) in the peak direction, while providing a reduced number of travel lane for the opposite direction of traffic flow, would help to alleviate any potential poor LOS conditions.

- The Woodley Avenue currently has bicycle lanes on the VA Hospital project route. The City of Los Angeles 2010 Bike Plan proposes 200 miles of bikeways every five years for the next 35 years. The Bike Plan proposes bicycle lanes on the following locations:
  - Camarillo Street on the North Hollywood Park project route;
  - Sherman Way on the Valley Plaza project route;
  - Van Nuys Boulevard on the Van Nuys-Sherman Oaks Park project route;
  - Roscoe Boulevard on the VA Hospital project route;
  - Balboa Boulevard and Lindley Avenue on the Reseda Park project route.

  If future bikeways are provided on project routes, the potential closure of these lanes in addition to adjacent on-street parking areas could be necessary during Project construction. If these lanes are closed and direct alternates via detour signage are not provided during construction, bicycle lane closure signs should be posted at the next major intersections to the north and south of the construction area.

- Left-turn lanes and other approach lanes (as feasible) should be maintained in close vicinity to major intersections along the proposed Project routes.

- Considerations for maintained access to adjacent residential driveways, as feasible, should be incorporated into the construction planning process.

- Where physical mitigation measures cannot be provided on roadway segments that would operate at LOS E or F during construction, peak-hour restrictions on construction activity would be necessary where feasible based on construction details. Otherwise, construction closure plans would minimize the effects on roadway capacity to the satisfaction of the local jurisdiction, and traffic diversions plans to other parallel roadways may also be necessary,

Typical traffic impact mitigation measures would not be available for impacts caused by Project construction. The need for manual traffic control, detours, and roadway/approach closures would be defined through traffic plans developed for each construction segment. These plans would be reviewed by the applicable local jurisdiction prior to implementation along the Project corridor. True mitigations would not be achieved along the Project construction areas, as capacity cannot be restored until construction is completed.

Impacts to transit service would be likely along Project segments during construction. Temporary stop relocations/closures could be necessary based on the roadway width needed for Project construction.

5.4 Recommended Traffic Control Design Considerations

To mitigate Project impacts, the final design plans for the Project should minimize the locations of complete roadways closures and to minimize the number and duration of lane closures. The Project is anticipated to use one or two travel lanes for construction work areas. Closure of entire roadways is not anticipated to be necessary for typical construction activities.

LADWP will be required to prepare worksite traffic control plans and detour plans to provide the travel lanes specified to remain open during construction. The plans must be prepared by a registered traffic or civil engineer, as appropriate based on City of Los Angeles permit guidelines, for review and approval. It is anticipated that LADWP will refine the traffic control lane requirements presented in the memorandum prior to preparation of final traffic control plans.

Caltrans should be contacted to obtain permits for the transport of over-sized loads, to obtain encroachment permits (if necessary), and to coordinate construction work on any State Route facilities or within interchange areas.

Detailed construction traffic control and detour (traffic deviations via alternative routes) plans should be prepared for each phase of construction and a public outreach program should be implemented to inform the public on the need for the Project and the Project's roadway closure characteristics. A Construction Traffic Management Plan will need to be prepared and approved for each construction segment prior to the start of work.

Traffic control plans should be developed in consultation with local transit agencies to minimize impacts to passenger loading areas and to minimize travel times on scheduled transit routes. All affected transit agencies must be contacted to provide for any required modifications or temporary relocation of transit facilities.

5.5 CEQA Checklist Question Responses

This report section responds to environmental review checklist questions defined for potential traffic impacts of a project by the California Environmental Quality Act (CEQA) guidelines.

Would the proposed Project:

A. Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?

Response: The proposed Project would conflict with the City of Los Angeles Mayor's Directive #2 that prohibits construction on major roads during rush hour periods (6:00 a.m. to 9:00 a.m. and 3:30 p.m. to 7:00 p.m.), if construction takes place during these times. As part of the variance to the Directive, and as part of construction during times outside rush hour periods of traffic, detailed traffic

handling plans would be prepared, and subject to the approval of the City of Los Angeles, to minimize traffic-related impacts during construction.

No complete street closures are anticipated during project construction. Several arterials, which provide both local access and sub-regional travel, will be temporarily impacted with the proposed Project construction. The reduced roadway capacity will temporarily impact the 19 analyzed Project corridor roadways, as detailed within this report.

Existing on-street parking areas along the proposed Project routes would be utilized as travel lanes to minimize traffic lane closures during construction, as necessary. Directional capacity (generally southbound/westbound in the a.m. peak and northbound/eastbound in the p.m. peak) would also be considered in roadway closure planning where work area placement is flexible. The provision of the original one-way capacity of the affected roadway (in number of travel lanes) in the peak direction, while providing a reduced number of travel lanes for the opposite direction of traffic flow, would help to alleviate any potential poor LOS conditions. Left-turn lanes and other approach lanes (as feasible) would be maintained in close vicinity to major intersections along the proposed Project routes.

Localized traffic impacts due to lane closures during construction would require detailed traffic handling plans to provide continued through access via detours for vehicles, and to provide for adequate pedestrian and transit circulation. Signed detour routes and other potential routes that drivers would utilize during the construction period would become alternate routes for a proportion of the vehicles that would otherwise travel along the corridor where construction would be taking place.

For the Project detour routes, wayfinding signs and other relevant traffic control devices would be placed on all major roadways into the larger area around each construction closure location, and would be repositioned for each construction phase (as the construction zones progress along the Project corridor). Wayfinding signs would be placed at major detour decision points, to keep vehicles on-track through the detour route, and would also be placed at the next major intersection location in advance of the first detour decision point. The final location of all wayfinding signs and traffic control devices would be proposed during the design process, which would include all traffic control plans.

The preparation of a Traffic Management Plan (TMP) that details construction traffic control and detour (traffic deviations via alternative routes) methods for each phase of construction would be prepared by a registered traffic or civil engineer, as appropriate, based on City of Los Angeles permit guidelines. The design of traffic management plans would be performed in consultation with local transit agencies to minimize impacts to passenger loading areas and to minimize travel times on scheduled transit routes. All affected transit agencies would be contacted to provide for any required modifications or temporary relocation of transit facilities. The plan would be approved by the applicable local jurisdiction(s) for each construction segment prior to the start of work within public roadways along the Project corridor. Methods to inform the public regarding Project construction and roadway detours and closures would be implemented.

Caltrans would be contacted to obtain permits for the transport of oversized loads, and to obtain encroachment permits for work along State Route facilities.

Impacts to traffic would be considered a significant but temporary impact. After completion of construction, the recycled water pipeline would not generate additional traffic; therefore, the Project would not result in permanent impacts to traffic.

B. Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?

Response: The Project traffic impacts will occur during construction activities only. No traffic impacts are anticipated upon Project completion. The County of Los Angeles Congestion Management Program (CMP) level of service impact thresholds are not intended to be applied to construction activities. As such, the Project is not forecast to exceed the significant impact thresholds defined by the CMP. The Project will not generate any new measurable and regular vehicle trips during the operations period.

C. Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?

Response: The proposed Project is an underground water pipeline that would be constructed within the existing roadways; therefore, no changes or impacts would occur to the existing air traffic patterns.

D. Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g. farm equipment)?

Response: The Project is proposing to construct the underground water pipeline within the existing roadways; no design changes to the existing roadways or use of roadways would occur. Therefore, no impacts to design features or incompatible uses would occur.

E. Result in inadequate emergency access?

Response: Construction activities could potentially interfere with emergency response by ambulance, fire, paramedic, and police vehicles. The loss of travel lanes and the resulting increase in congestion could lengthen the response time required for emergency vehicles passing through the construction zone. Moreover, there is a possibility that emergency services may be needed at a location where access is temporarily blocked by the construction zone.

F. Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

Response: Project construction would require the closure of one or two travel lanes and may result in left-turn restrictions. Construction of the proposed Project is also anticipated to temporarily affect public transit, bicycle, or pedestrian facilities during construction activities.

Public transportation may be affected as a result of Project construction. Project construction activities may require the use of existing bus stop curb lane areas. To the extent practicable, temporary bus stop closures would be accommodated with replacement bus stops outside of the immediate work area. These temporary closures, however, would need to be located along wide portions of the roadway where the maximum number of travel lanes can be accommodated during construction.

The Woodley Avenue currently has bicycle lanes on the VA Hospital project route. The City of Los Angeles 2010 Bike Plan proposes 200 miles of bikeways every five years for the next 35 years. The Bike Plan proposes bicycle lanes on multiple roadways with the study area.

If bikeways are provided prior to the project construction, it is likely that the Project will include the closure of these lanes. As a result, construction-related activities would potentially create unsafe conditions for bicyclists under restricted capacity conditions; therefore, these particular bicycle routes would be closed temporarily. To notify the public, signs would be posted at the next major intersections to the north and south of the construction area.

No impacts to public transit, bicycle, or pedestrian facilities are anticipated upon Project completion. The City of Los Angeles would require that worksite traffic control and detour plans be developed.

5.6 Conclusions

Once completed, the proposed Project will not create any significant impacts on the area traffic circulation system. Traffic impacts, though temporary in nature, are anticipated during construction as roadway trenching will be required to install the new water pipeline. The construction "footprint" will reduce roadway widths, thereby, in some cases, reduce the number of travel lanes and eliminate on-street parking.

LADWP has divided construction activities into short 150 to 300-foot work areas. Reviewing agencies will require Project schedules and construction worksite traffic control and detour plans to reduce the temporary Project construction impacts. These activities would mitigate potential impacts at the identified study roadway segments. The Project will not generate any new measurable and regular vehicle trips during the operations period, and long-term mitigation measures are therefore not required.

APPENDIX A –
DAILY TRAFFIC COUNTS

Prepared by NDS/ATD

VOLUME

Camarillo St W/o Cahuenga Blvd

Day: Tuesday
Date: 5/15/2012

City: North Hollywood
Project #: CA12_5188_001

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	6,126	6,220	12,346

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			13		10		23		12:00			79		84		163	
00:15			7		19		26		12:15			86		83		169	
00:30			11		14		25		12:30			88		80		168	
00:45			4	35	4	47	8	82	12:45			105	358	97	344	202	702
01:00			6		8		14		13:00			85		79		164	
01:15			2		4		6		13:15			91		101		192	
01:30			6		12		18		13:30			107		77		184	
01:45			8	22	6	30	14	52	13:45			97	380	80	337	177	717
02:00			1		6		7		14:00			105		95		200	
02:15			3		5		8		14:15			100		112		212	
02:30			7		5		12		14:30			90		92		182	
02:45			0	11	3	19	3	30	14:45			101	396	106	405	207	801
03:00			3		5		8		15:00			78		93		171	
03:15			3		1		4		15:15			86		101		187	
03:30			0		1		1		15:30			97		110		207	
03:45			0	6	5	12	5	18	15:45			123	384	111	415	234	799
04:00			1		3		4		16:00			94		117		211	
04:15			5		3		8		16:15			101		132		233	
04:30			2		2		4		16:30			108		109		217	
04:45			2	10	1	9	3	19	16:45			121	424	97	455	218	879
05:00			6		8		14		17:00			109		131		240	
05:15			7		5		12		17:15			101		151		252	
05:30			9		14		23		17:30			126		156		282	
05:45			13	35	12	39	25	74	17:45			108	444	147	585	255	1029
06:00			15		16		31		18:00			102		145		247	
06:15			25		23		48		18:15			99		167		266	
06:30			34		33		67		18:30			103		159		262	
06:45			40	114	29	101	69	215	18:45			90	394	156	627	246	1021
07:00			58		57		115		19:00			95		159		254	
07:15			77		67		144		19:15			80		134		214	
07:30			137		90		227		19:30			77		106		183	
07:45			150	422	103	317	253	739	19:45			79	331	95	494	174	825
08:00			133		90		223		20:00			57		84		141	
08:15			153		93		246		20:15			55		69		124	
08:30			149		96		245		20:30			48		66		114	
08:45			186	621	90	369	276	990	20:45			57	217	58	277	115	494
09:00			177		74		251		21:00			55		67		122	
09:15			112		68		180		21:15			57		48		105	
09:30			127		69		196		21:30			62		45		107	
09:45			87	503	85	296	172	799	21:45			34	208	58	218	92	426
10:00			89		54		143		22:00			42		52		94	
10:15			72		70		142		22:15			22		42		64	
10:30			84		58		142		22:30			20		30		50	
10:45			93	338	83	265	176	603	22:45			22	106	40	164	62	270
11:00			65		68		133		23:00			23		29		52	
11:15			83		69		152		23:15			11		32		43	
11:30			73		70		143		23:30			15		23		38	
11:45			85	306	83	290	168	596	23:45			12	61	21	105	33	166
TOTALS				2423		1794		**4217**	**TOTALS**				3703		4426		**8129**
SPLIT %				57.5%		42.5%		**34.2%**	**SPLIT %**				45.6%		54.4%		**65.8%**

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	6,126	6,220	12,346

AM Peak Hour			08:15	07:45	**08:15**	**PM Peak Hour**			16:45	18:15	**17:30**
AM Pk Volume			665	382	**1018**	**PM Pk Volume**			457	641	**1050**
Pk Hr Factor			0.894	0.927	**0.922**	**Pk Hr Factor**			0.907	0.960	**0.931**
7 - 9 Volume	0	0	1043	686	**1729**	**4 - 6 Volume**	0	0	868	1040	**1908**
7 - 9 Peak Hour			08:00	07:45	**08:00**	**4 - 6 Peak Hour**			16:45	17:00	**17:00**
7 - 9 Pk Volume	0	0	621	382	**990**	**4 - 6 Pk Volume**	0	0	457	585	**1029**
Pk Hr Factor	0.000	0.000	0.835	0.927	**0.897**	**Pk Hr Factor**	0.000	0.000	0.907	0.938	**0.912**

Prepared by NDS/ATD

VOLUME

Vineland Ave S/o Magnolia Blvd

Day: Tuesday
Date: 5/15/2012

City: North Hollywood
Project #: CA12_5188_002

DAILY TOTALS	NB	SB	EB	WB	Total
	13,542	12,469	0	0	26,011

AM Period	NB		SB		EB		WB		TOTAL	
00:00	54		48						102	
00:15	40		36						76	
00:30	36		36						72	
00:45	41	171	21	141					62	312
01:00	32		19						51	
01:15	26		10						36	
01:30	13		14						27	
01:45	22	93	15	58					37	151
02:00	26		9						35	
02:15	16		8						24	
02:30	17		5						22	
02:45	11	70	9	31					20	101
03:00	10		9						19	
03:15	17		13						30	
03:30	17		11						28	
03:45	11	55	8	41					19	96
04:00	12		11						23	
04:15	13		24						37	
04:30	19		18						37	
04:45	16	60	27	80					43	140
05:00	30		34						64	
05:15	31		37						68	
05:30	35		64						99	
05:45	39	135	88	223					127	358
06:00	38		97						135	
06:15	73		158						231	
06:30	86		173						259	
06:45	97	294	190	618					287	912
07:00	95		210						305	
07:15	127		213						340	
07:30	135		317						452	
07:45	177	534	304	1044					481	1578
08:00	142		237						379	
08:15	131		240						371	
08:30	150		248						398	
08:45	155	578	259	984					414	1562
09:00	166		194						360	
09:15	169		187						356	
09:30	147		179						326	
09:45	181	663	208	768					389	1431
10:00	173		146						319	
10:15	160		156						316	
10:30	179		138						317	
10:45	171	683	173	613					344	1296
11:00	135		161						296	
11:15	203		160						363	
11:30	193		167						360	
11:45	197	728	183	671					380	1399
TOTALS		4064		5272						9336
SPLIT %		43.5%		56.5%						35.9%

PM Period	NB		SB		EB		WB		TOTAL	
12:00	188		163						351	
12:15	202		181						383	
12:30	214		178						392	
12:45	234	838	186	708					420	1546
13:00	199		147						346	
13:15	218		200						418	
13:30	242		172						414	
13:45	241	900	191	710					432	1610
14:00	257		154						411	
14:15	213		190						403	
14:30	195		174						369	
14:45	221	886	188	706					409	1592
15:00	252		176						428	
15:15	217		164						381	
15:30	237		168						405	
15:45	232	938	158	666					390	1604
16:00	265		160						425	
16:15	251		156						407	
16:30	232		179						411	
16:45	227	975	178	673					405	1648
17:00	284		185						469	
17:15	263		192						455	
17:30	288		199						487	
17:45	244	1079	178	754					422	1833
18:00	278		184						462	
18:15	272		188						460	
18:30	241		188						429	
18:45	278	1069	168	728					446	1797
19:00	212		172						384	
19:15	233		168						401	
19:30	216		151						367	
19:45	195	856	152	643					347	1499
20:00	206		132						338	
20:15	146		139						285	
20:30	140		129						269	
20:45	160	652	130	530					290	1182
21:00	151		133						284	
21:15	149		127						276	
21:30	128		119						247	
21:45	136	564	112	491					248	1055
22:00	147		122						269	
22:15	116		101						217	
22:30	93		95						188	
22:45	91	447	66	384					157	831
23:00	83		62						145	
23:15	72		45						117	
23:30	63		54						117	
23:45	56	274	43	204					99	478
TOTALS		9478		7197						16675
SPLIT %		56.8%		43.2%						64.1%

DAILY TOTALS	NB	SB	EB	WB	Total
	13,542	12,469	0	0	26,011

AM Peak Hour	11:45	07:30			07:30	PM Peak Hour	17:30	16:45			17:00
AM Pk Volume	801	1098			1683	PM Pk Volume	1082	754			1833
Pk Hr Factor	0.936	0.866			0.875	Pk Hr Factor	0.939	0.947			0.941
7 - 9 Volume	1112	2028	0	0	3140	4 - 6 Volume	2054	1427	0	0	3481
7 - 9 Peak Hour	07:45	07:30			07:30	4 - 6 Peak Hour	17:00	16:45			17:00
7 - 9 Pk Volume	600	1098	0	0	1683	4 - 6 Pk Volume	1079	754	0	0	1833
Pk Hr Factor	0.847	0.866	0.000	0.000	0.875	Pk Hr Factor	0.937	0.947	0.000	0.000	0.941

Prepared by NDS/ATD

VOLUME

Magnolia Blvd E/o Colfax Ave

Day: Tuesday
Date: 5/15/2012

City: North Hollywood
Project #: CA12_5188_003

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	12,898	14,263	27,161

AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00			28	36	64	12:00			209	227	436
00:15			35	45	80	12:15			198	229	427
00:30			15	24	39	12:30			206	233	439
00:45			19	97	23	128	42	225	12:45			199	812	217	906	416	1718
01:00			17	32	49	13:00			190	242	432
01:15			13	20	33	13:15			197	208	405
01:30			17	21	38	13:30			201	254	455
01:45			10	57	13	86	23	143	13:45			210	798	225	929	435	1727
02:00			12	20	32	14:00			209	236	445
02:15			13	13	26	14:15			217	268	485
02:30			10	13	23	14:30			217	261	478
02:45			9	44	9	55	18	99	14:45			189	832	220	985	409	1817
03:00			6	3	9	15:00			204	196	400
03:15			5	8	13	15:15			223	207	430
03:30			6	5	11	15:30			204	244	448
03:45			5	22	7	23	12	45	15:45			201	832	197	844	398	1676
04:00			9	6	15	16:00			197	222	419
04:15			4	8	12	16:15			208	220	428
04:30			15	5	20	16:30			222	244	466
04:45			16	44	6	25	22	69	16:45			197	824	263	949	460	1773
05:00			13	17	30	17:00			231	287	518
05:15			19	17	36	17:15			214	276	490
05:30			34	21	55	17:30			213	300	513
05:45			51	117	36	91	87	208	17:45			232	890	292	1155	524	2045
06:00			56	60	116	18:00			235	309	544
06:15			77	67	144	18:15			229	279	508
06:30			113	96	209	18:30			204	268	472
06:45			130	376	122	345	252	721	18:45			197	865	282	1138	479	2003
07:00			145	147	292	19:00			174	270	444
07:15			210	167	377	19:15			183	216	399
07:30			247	228	475	19:30			154	190	344
07:45			226	828	249	791	475	1619	19:45			145	656	184	860	329	1516
08:00			260	185	445	20:00			132	165	297
08:15			271	175	446	20:15			110	163	273
08:30			245	187	432	20:30			106	148	254
08:45			259	1035	183	730	442	1765	20:45			97	445	140	616	237	1061
09:00			261	201	462	21:00			104	146	250
09:15			234	207	441	21:15			97	111	208
09:30			220	220	440	21:30			103	115	218
09:45			218	933	213	841	431	1774	21:45			72	376	121	493	193	869
10:00			216	212	428	22:00			87	116	203
10:15			196	221	417	22:15			64	111	175
10:30			189	205	394	22:30			47	91	138
10:45			202	803	198	836	400	1639	22:45			62	260	67	385	129	645
11:00			206	194	400	23:00			39	81	120
11:15			193	201	394	23:15			48	60	108
11:30			184	195	379	23:30			33	61	94
11:45			213	796	203	793	416	1589	23:45			36	156	57	259	93	415
TOTALS				5152	4744	**9896**	**TOTALS**				7746	9519	**17265**
SPLIT %				52.1%	47.9%	**36.4%**	**SPLIT %**				44.9%	55.1%	**63.6%**

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	12,898	14,263	27,161

AM Peak Hour			08:15	11:45	**07:30**	**PM Peak Hour**			17:30	17:30	**17:30**
AM Pk Volume			1036	892	**1841**	**PM Pk Volume**			909	1180	**2089**
Pk Hr Factor			0.956	0.957	**0.969**	**Pk Hr Factor**			0.967	0.955	**0.960**
7 - 9 Volume	0	0	1863	1521	**3384**	**4 - 6 Volume**	0	0	1714	2104	**3818**
7 - 9 Peak Hour			08:00	07:30	**07:30**	**4 - 6 Peak Hour**			17:00	17:00	**17:00**
7 - 9 Pk Volume	0	0	1035	837	**1841**	**4 - 6 Pk Volume**	0	0	890	1155	**2045**
Pk Hr Factor	0.000	0.000	0.955	0.840	**0.969**	**Pk Hr Factor**	0.000	0.000	0.959	0.963	**0.976**

Prepared by NDS/ATD

VOLUME

Sherman Way E/o Woodman Ave

Day: Tuesday
Date: 5/15/2012

City: North Hollywood
Project #: CA12_5188_004

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	22,134	23,678	45,812

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			55		78		133		12:00			338		335		673	
00:15			51		77		128		12:15			296		389		685	
00:30			44		66		110		12:30			288		358		646	
00:45			40	190	60	281	100	471	12:45			319	1241	380	1462	699	2703
01:00			31		50		81		13:00			324		325		649	
01:15			36		35		71		13:15			318		291		609	
01:30			36		39		75		13:30			357		315		672	
01:45			35	138	40	164	75	302	13:45			322	1321	337	1268	659	2589
02:00			28		29		57		14:00			330		379		709	
02:15			27		23		50		14:15			340		334		674	
02:30			15		25		40		14:30			296		357		653	
02:45			16	86	30	107	46	193	14:45			355	1321	333	1403	688	2724
03:00			16		30		46		15:00			336		423		759	
03:15			22		31		53		15:15			327		384		711	
03:30			25		29		54		15:30			366		387		753	
03:45			26	89	29	119	55	208	15:45			343	1372	375	1569	718	2941
04:00			22		36		58		16:00			372		448		820	
04:15			32		35		67		16:15			360		395		755	
04:30			59		44		103		16:30			334		448		782	
04:45			72	185	47	162	119	347	16:45			379	1445	438	1729	817	3174
05:00			72		54		126		17:00			380		476		856	
05:15			96		78		174		17:15			353		426		779	
05:30			149		114		263		17:30			347		404		751	
05:45			191	508	162	408	353	916	17:45			334	1414	411	1717	745	3131
06:00			200		149		349		18:00			381		408		789	
06:15			223		196		419		18:15			317		425		742	
06:30			285		194		479		18:30			327		448		775	
06:45			348	1056	255	794	603	1850	18:45			287	1312	384	1665	671	2977
07:00			321		267		588		19:00			261		356		617	
07:15			351		340		691		19:15			276		360		636	
07:30			404		377		781		19:30			268		356		624	
07:45			429	1505	362	1346	791	2851	19:45			254	1059	287	1359	541	2418
08:00			409		375		784		20:00			244		303		547	
08:15			348		353		701		20:15			217		282		499	
08:30			335		300		635		20:30			218		287		505	
08:45			385	1477	325	1353	710	2830	20:45			232	911	274	1146	506	2057
09:00			347		287		634		21:00			205		297		502	
09:15			355		276		631		21:15			192		245		437	
09:30			300		254		554		21:30			199		230		429	
09:45			336	1338	297	1114	633	2452	21:45			187	783	224	996	411	1779
10:00			293		277		570		22:00			150		178		328	
10:15			324		305		629		22:15			138		176		314	
10:30			336		260		596		22:30			153		167		320	
10:45			333	1286	279	1121	612	2407	22:45			112	553	114	635	226	1188
11:00			302		328		630		23:00			98		130		228	
11:15			296		304		600		23:15			92		119		211	
11:30			293		345		638		23:30			82		110		192	
11:45			316	1207	351	1328	667	2535	23:45			65	337	73	432	138	769
TOTALS				9065		8297		**17362**	**TOTALS**				13069		15381		**28450**
SPLIT %				52.2%		47.8%		**37.9%**	**SPLIT %**				45.9%		54.1%		**62.1%**

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	22,134	23,678	45,812

AM Peak Hour			07:15	07:30	**07:30**	**PM Peak Hour**			16:45	16:30	**16:30**
AM Pk Volume			1593	1467	**3057**	**PM Pk Volume**			1459	1788	**3234**
Pk Hr Factor			0.928	0.973	**0.966**	**Pk Hr Factor**			0.960	0.939	**0.945**
7 - 9 Volume	0	0	2982	2699	**5681**	**4 - 6 Volume**	0	0	2859	3446	**6305**
7 - 9 Peak Hour			07:15	07:30	**07:30**	**4 - 6 Peak Hour**			16:45	16:30	**16:30**
7 - 9 Pk Volume	0	0	1593	1467	**3057**	**4 - 6 Pk Volume**	0	0	1459	1788	**3234**
Pk Hr Factor	0.000	0.000	0.928	0.973	**0.966**	**Pk Hr Factor**	0.000	0.000	0.960	0.939	**0.945**

Prepared by NDS/ATD

VOLUME

Sherman Way E/o Coldwater Canyon Ave

Day: Tuesday
Date: 5/15/2012

City: North Hollywood
Project #: CA12_5188_005

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	23,842	23,641	47,483

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			66		85		151		12:00			381		322		703	
00:15			52		89		141		12:15			367		366		733	
00:30			54		67		121		12:30			349		347		696	
00:45			43	215	57	298	100	513	12:45			348	1445	359	1394	707	2839
01:00			42		49		91		13:00			367		333		700	
01:15			37		37		74		13:15			374		307		681	
01:30			55		40		95		13:30			369		329		698	
01:45			34	168	40	166	74	334	13:45			417	1527	316	1285	733	2812
02:00			35		29		64		14:00			397		340		737	
02:15			25		33		58		14:15			404		355		759	
02:30			28		26		54		14:30			360		369		729	
02:45			19	107	22	110	41	217	14:45			364	1525	381	1445	745	2970
03:00			16		24		40		15:00			358		404		762	
03:15			20		23		43		15:15			390		377		767	
03:30			38		34		72		15:30			428		396		824	
03:45			38	112	37	118	75	230	15:45			375	1551	387	1564	762	3115
04:00			27		44		71		16:00			361		422		783	
04:15			41		35		76		16:15			337		381		718	
04:30			51		59		110		16:30			360		430		790	
04:45			78	197	70	208	148	405	16:45			374	1432	418	1651	792	3083
05:00			72		58		130		17:00			394		456		850	
05:15			101		74		175		17:15			367		439		806	
05:30			164		134		298		17:30			389		416		805	
05:45			179	516	188	454	367	970	17:45			333	1483	406	1717	739	3200
06:00			197		153		350		18:00			363		428		791	
06:15			237		199		436		18:15			365		414		779	
06:30			276		216		492		18:30			357		430		787	
06:45			317	1027	254	822	571	1849	18:45			305	1390	375	1647	680	3037
07:00			327		256		583		19:00			321		346		667	
07:15			341		321		662		19:15			305		351		656	
07:30			404		360		764		19:30			277		344		621	
07:45			387	1459	340	1277	727	2736	19:45			268	1171	320	1361	588	2532
08:00			379		347		726		20:00			271		313		584	
08:15			378		332		710		20:15			249		293		542	
08:30			335		304		639		20:30			246		277		523	
08:45			375	1467	312	1295	687	2762	20:45			222	988	267	1150	489	2138
09:00			342		290		632		21:00			230		280		510	
09:15			349		272		621		21:15			202		237		439	
09:30			341		281		622		21:30			194		221		415	
09:45			369	1401	288	1131	657	2532	21:45			184	810	216	954	400	1764
10:00			359		281		640		22:00			165		169		334	
10:15			363		316		679		22:15			125		156		281	
10:30			341		308		649		22:30			156		177		333	
10:45			351	1414	304	1209	655	2623	22:45			110	556	130	632	240	1188
11:00			408		333		741		23:00			113		131		244	
11:15			354		324		678		23:15			98		103		201	
11:30			360		339		699		23:30			87		110		197	
11:45			380	1502	337	1333	717	2835	23:45			81	379	76	420	157	799
TOTALS				9585		8421		18006	TOTALS				14257		15220		29477
SPLIT %				53.2%		46.8%		37.9%	SPLIT %				48.4%		51.6%		62.1%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	23,842	23,641	47,483

AM Peak Hour			07:30	07:30	07:30	PM Peak Hour			13:30	16:30	16:45
AM Pk Volume			1548	1379	2927	PM Pk Volume			1587	1743	3253
Pk Hr Factor			0.958	0.958	0.958	Pk Hr Factor			0.951	0.956	0.957
7 - 9 Volume	0	0	2926	2572	5498	4 - 6 Volume	0	0	2915	3368	6283
7 - 9 Peak Hour			07:30	07:30	07:30	4 - 6 Peak Hour			16:45	16:30	16:45
7 - 9 Pk Volume	0	0	1548	1379	2927	4 - 6 Pk Volume	0	0	1524	1743	3253
Pk Hr Factor	0.000	0.000	0.958	0.958	0.958	Pk Hr Factor	0.000	0.000	0.967	0.956	0.957

Prepared by NDS/ATD

VOLUME

Whitsett Ave S/o Sherman Way

Day: Tuesday
Date: 5/15/2012

City: North Hollywood
Project #: CA12_5188_006

DAILY TOTALS	NB	SB	EB	WB	Total
	7,783	7,952	0	0	15,735

AM Period	NB		SB		EB		WB		TOTAL	
00:00	19		16						35	
00:15	23		18						41	
00:30	12		8						20	
00:45	11	65	12	54					23	119
01:00	12		11						23	
01:15	13		6						19	
01:30	10		5						15	
01:45	9	44	7	29					16	73
02:00	6		3						9	
02:15	10		2						12	
02:30	4		7						11	
02:45	6	26	3	15					9	41
03:00	7		7						14	
03:15	9		8						17	
03:30	5		6						11	
03:45	1	22	3	24					4	46
04:00	11		6						17	
04:15	6		3						9	
04:30	18		9						27	
04:45	7	42	7	25					14	67
05:00	12		10						22	
05:15	22		12						34	
05:30	38		27						65	
05:45	30	102	37	86					67	188
06:00	32		50						82	
06:15	49		65						114	
06:30	62		88						150	
06:45	69	212	131	334					200	546
07:00	83		154						237	
07:15	101		206						307	
07:30	97		273						370	
07:45	122	403	308	941					430	1344
08:00	117		186						303	
08:15	110		171						281	
08:30	82		154						236	
08:45	75	384	145	656					220	1040
09:00	83		123						206	
09:15	75		110						185	
09:30	83		118						201	
09:45	76	317	103	454					179	771
10:00	64		89						153	
10:15	74		82						156	
10:30	79		91						170	
10:45	83	300	98	360					181	660
11:00	86		103						189	
11:15	92		82						174	
11:30	100		100						200	
11:45	78	356	91	376					169	732
TOTALS		2273		3354						5627
SPLIT %		40.4%		59.6%						35.8%

PM Period	NB		SB		EB		WB		TOTAL	
12:00	83		89						172	
12:15	94		88						182	
12:30	97		129						226	
12:45	88	362	111	417					199	779
13:00	102		98						200	
13:15	97		99						196	
13:30	102		94						196	
13:45	119	420	124	415					243	835
14:00	127		129						256	
14:15	116		113						229	
14:30	141		138						279	
14:45	136	520	112	492					248	1012
15:00	120		121						241	
15:15	145		133						278	
15:30	161		130						291	
15:45	159	585	121	505					280	1090
16:00	167		150						317	
16:15	178		104						282	
16:30	161		158						319	
16:45	164	670	134	546					298	1216
17:00	211		135						346	
17:15	223		125						348	
17:30	185		153						338	
17:45	187	806	136	549					323	1355
18:00	188		110						298	
18:15	170		108						278	
18:30	141		122						263	
18:45	151	650	100	440					251	1090
19:00	123		105						228	
19:15	139		102						241	
19:30	123		94						217	
19:45	125	510	89	390					214	900
20:00	103		100						203	
20:15	118		75						193	
20:30	102		72						174	
20:45	61	384	82	329					143	713
21:00	95		78						173	
21:15	75		64						139	
21:30	69		60						129	
21:45	59	298	36	238					95	536
22:00	53		50						103	
22:15	53		39						92	
22:30	35		43						78	
22:45	41	182	40	172					81	354
23:00	32		25						57	
23:15	34		34						68	
23:30	29		26						55	
23:45	28	123	20	105					48	228
TOTALS		5510		4598						10108
SPLIT %		54.5%		45.5%						64.2%

DAILY TOTALS	NB	SB	EB	WB	Total
	7,783	7,952	0	0	15,735

AM Peak Hour	07:30	07:15			07:15
AM Pk Volume	446	973			1410
Pk Hr Factor	0.914	0.790			0.820
7 - 9 Volume	787	1597	0	0	2384
7 - 9 Peak Hour	07:30	07:15			07:15
7 - 9 Pk Volume	446	973	0	0	1410
Pk Hr Factor	0.914	0.790	0.000	0.000	0.820

PM Peak Hour	17:00	16:30			17:00
PM Pk Volume	806	552			1355
Pk Hr Factor	0.904	0.873			0.973
4 - 6 Volume	1476	1095	0	0	2571
4 - 6 Peak Hour	17:00	16:30			17:00
4 - 6 Pk Volume	806	552	0	0	1355
Pk Hr Factor	0.904	0.873	0.000	0.000	0.973

Prepared by NDS/ATD

VOLUME

Vanowen St E/o Whitsett Ave

Day: Tuesday
Date: 5/15/2012

City: North Hollywood
Project #: CA12_5188_007

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	12,055	12,686	24,741

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			22		34		56		12:00			168		197		365	
00:15			19		28		47		12:15			196		182		378	
00:30			24		16		40		12:30			167		174		341	
00:45			17	82	14	92	31	174	12:45			162	693	179	732	341	1425
01:00			11		16		27		13:00			180		175		355	
01:15			19		11		30		13:15			179		181		360	
01:30			11		16		27		13:30			181		185		366	
01:45			13	54	12	55	25	109	13:45			200	740	168	709	368	1449
02:00			12		8		20		14:00			181		190		371	
02:15			10		6		16		14:15			183		220		403	
02:30			14		11		25		14:30			192		210		402	
02:45			7	43	4	29	11	72	14:45			223	779	222	842	445	1621
03:00			8		6		14		15:00			179		197		376	
03:15			11		11		22		15:15			186		239		425	
03:30			11		14		25		15:30			211		234		445	
03:45			7	37	10	41	17	78	15:45			225	801	265	935	490	1736
04:00			15		13		28		16:00			203		254		457	
04:15			15		8		23		16:15			235		249		484	
04:30			13		17		30		16:30			228		226		454	
04:45			21	64	25	63	46	127	16:45			231	897	253	982	484	1879
05:00			20		31		51		17:00			237		327		564	
05:15			35		35		70		17:15			231		304		535	
05:30			63		58		121		17:30			254		298		552	
05:45			62	180	49	173	111	353	17:45			187	909	282	1211	469	2120
06:00			71		78		149		18:00			209		312		521	
06:15			76		110		186		18:15			182		262		444	
06:30			130		113		243		18:30			200		234		434	
06:45			151	428	151	452	302	880	18:45			217	808	212	1020	429	1828
07:00			142		149		291		19:00			186		219		405	
07:15			189		193		382		19:15			176		194		370	
07:30			235		232		467		19:30			128		182		310	
07:45			300	866	206	780	506	1646	19:45			138	628	168	763	306	1391
08:00			277		200		477		20:00			141		146		287	
08:15			217		157		374		20:15			124		146		270	
08:30			193		126		319		20:30			110		122		232	
08:45			216	903	142	625	358	1528	20:45			101	476	129	543	230	1019
09:00			165		153		318		21:00			94		129		223	
09:15			154		159		313		21:15			99		131		230	
09:30			181		135		316		21:30			84		89		173	
09:45			175	675	140	587	315	1262	21:45			85	362	80	429	165	791
10:00			148		139		287		22:00			71		79		150	
10:15			157		141		298		22:15			58		85		143	
10:30			139		133		272		22:30			47		71		118	
10:45			147	591	138	551	285	1142	22:45			51	227	50	285	101	512
11:00			168		154		322		23:00			49		48		97	
11:15			165		172		337		23:15			43		31		74	
11:30			163		171		334		23:30			38		23		61	
11:45			161	657	159	656	320	1313	23:45			25	155	29	131	54	286
TOTALS				4580		4104		8684	TOTALS				7475		8582		16057
SPLIT %				52.7%		47.3%		35.1%	SPLIT %				46.6%		53.4%		64.9%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	12,055	12,686	24,741

AM Peak Hour			07:30	07:15	07:15	PM Peak Hour			16:45	17:00	16:45
AM Pk Volume			1029	831	1832	PM Pk Volume			953	1211	2135
Pk Hr Factor			0.858	0.895	0.905	Pk Hr Factor			0.938	0.926	0.946
7 - 9 Volume	0	0	1769	1405	3174	4 - 6 Volume	0	0	1806	2193	3999
7 - 9 Peak Hour			07:30	07:15	07:15	4 - 6 Peak Hour			16:45	17:00	16:45
7 - 9 Pk Volume	0	0	1029	831	1832	4 - 6 Pk Volume	0	0	953	1211	2135
Pk Hr Factor	0.000	0.000	0.858	0.895	0.905	Pk Hr Factor	0.000	0.000	0.938	0.926	0.946

Prepared by NDS/ATD

VOLUME

Oxnard St E/o Kester Ave

Day: Tuesday
Date: 5/15/2012

City: North Hollywood
Project #: CA12_5188_008

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	10,661	11,825	22,486

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			21		23		44		12:00			153		155		308	
00:15			16		21		37		12:15			172		170		342	
00:30			19		16		35		12:30			157		182		339	
00:45			17	73	15	75	32	148	12:45			186	668	165	672	351	1340
01:00			16		22		38		13:00			175		190		365	
01:15			10		9		19		13:15			161		202		363	
01:30			7		7		14		13:30			162		156		318	
01:45			7	40	8	46	15	86	13:45			153	651	174	722	327	1373
02:00			15		7		22		14:00			176		209		385	
02:15			6		9		15		14:15			159		161		320	
02:30			10		5		15		14:30			177		171		348	
02:45			5	36	8	29	13	65	14:45			178	690	187	728	365	1418
03:00			2		5		7		15:00			180		175		355	
03:15			1		4		5		15:15			164		189		353	
03:30			6		1		7		15:30			182		192		374	
03:45			6	15	3	13	9	28	15:45			190	716	214	770	404	1486
04:00			5		2		7		16:00			171		211		382	
04:15			1		4		5		16:15			200		219		419	
04:30			2		2		4		16:30			182		231		413	
04:45			3	11	2	10	5	21	16:45			183	736	205	866	388	1602
05:00			0		5		5		17:00			204		217		421	
05:15			4		10		14		17:15			197		240		437	
05:30			7		13		20		17:30			225		245		470	
05:45			5	16	5	33	10	49	17:45			209	835	237	939	446	1774
06:00			7		14		21		18:00			226		256		482	
06:15			10		18		28		18:15			234		256		490	
06:30			17		36		53		18:30			214		230		444	
06:45			26	60	49	117	75	177	18:45			223	897	235	977	458	1874
07:00			46		63		109		19:00			216		219		435	
07:15			62		91		153		19:15			201		231		432	
07:30			82		117		199		19:30			190		212		402	
07:45			117	307	153	424	270	731	19:45			158	765	167	829	325	1594
08:00			134		168		302		20:00			161		175		336	
08:15			178		201		379		20:15			117		132		249	
08:30			218		223		441		20:30			109		126		235	
08:45			229	759	248	840	477	1599	20:45			117	504	103	536	220	1040
09:00			205		245		450		21:00			87		99		186	
09:15			215		246		461		21:15			99		105		204	
09:30			229		236		465		21:30			86		90		176	
09:45			220	869	224	951	444	1820	21:45			65	337	73	367	138	704
10:00			173		223		396		22:00			71		77		148	
10:15			194		196		390		22:15			70		72		142	
10:30			174		204		378		22:30			42		66		108	
10:45			148	689	183	806	331	1495	22:45			49	232	53	268	102	500
11:00			147		143		290		23:00			40		33		73	
11:15			162		172		334		23:15			36		37		73	
11:30			157		190		347		23:30			43		30		73	
11:45			139	605	172	677	311	1282	23:45			31	150	30	130	61	280
TOTALS				3480		4021		7501	TOTALS				7181		7804		14985
SPLIT %				46.4%		53.6%		33.4%	SPLIT %				47.9%		52.1%		66.6%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	10,661	11,825	22,486

AM Peak Hour			08:45	08:45	08:45	PM Peak Hour			18:00	17:30	17:30
AM Pk Volume			878	975	1853	PM Pk Volume			897	994	1888
Pk Hr Factor			0.959	0.983	0.971	Pk Hr Factor			0.958	0.971	0.963
7 - 9 Volume	0	0	1066	1264	2330	4 - 6 Volume	0	0	1571	1805	3376
7 - 9 Peak Hour			08:00	08:00	08:00	4 - 6 Peak Hour			17:00	17:00	17:00
7 - 9 Pk Volume	0	0	759	840	1599	4 - 6 Pk Volume	0	0	835	939	1774
Pk Hr Factor	0.000	0.000	0.829	0.847	0.838	Pk Hr Factor	0.000	0.000	0.928	0.958	0.944

Prepared by NDS/ATD

VOLUME

Van Nuys Blvd S/o Clark St

Day: Tuesday
Date: 5/15/2012

City: North Hollywood
Project #: CA12_5188_009

DAILY TOTALS	NB	SB	EB	WB	Total
	17,828	17,658	0	0	35,486

AM Period	NB		SB		EB		WB		TOTAL	
00:00	44		36						80	
00:15	36		21						57	
00:30	32		24						56	
00:45	36	148	24	105					60	253
01:00	20		19						39	
01:15	22		14						36	
01:30	23		9						32	
01:45	13	78	6	48					19	126
02:00	16		13						29	
02:15	10		11						21	
02:30	9		9						18	
02:45	13	48	9	42					22	90
03:00	15		6						21	
03:15	7		4						11	
03:30	9		6						15	
03:45	5	36	8	24					13	60
04:00	11		7						18	
04:15	15		6						21	
04:30	15		18						33	
04:45	18	59	19	50					37	109
05:00	26		32						58	
05:15	35		45						80	
05:30	38		45						83	
05:45	64	163	92	214					156	377
06:00	67		152						219	
06:15	75		182						257	
06:30	84		277						361	
06:45	135	361	303	914					438	1275
07:00	141		317						458	
07:15	170		326						496	
07:30	164		348						512	
07:45	263	738	366	1357					629	2095
08:00	278		368						646	
08:15	236		281						517	
08:30	254		282						536	
08:45	225	993	322	1253					547	2246
09:00	235		301						536	
09:15	213		305						518	
09:30	244		307						551	
09:45	260	952	311	1224					571	2176
10:00	230		316						546	
10:15	262		270						532	
10:30	295		269						564	
10:45	250	1037	282	1137					532	2174
11:00	292		321						613	
11:15	274		285						559	
11:30	301		313						614	
11:45	317	1184	310	1229					627	2413
TOTALS		5797		7597						13394
SPLIT %		43.3%		56.7%						37.7%

PM Period	NB		SB		EB		WB		TOTAL	
12:00	282		342						624	
12:15	310		298						608	
12:30	294		280						574	
12:45	321	1207	285	1205					606	2412
13:00	316		294						610	
13:15	323		267						590	
13:30	338		283						621	
13:45	328	1305	280	1124					608	2429
14:00	349		322						671	
14:15	350		311						661	
14:30	323		318						641	
14:45	318	1340	272	1223					590	2563
15:00	365		326						691	
15:15	354		283						637	
15:30	341		242						583	
15:45	339	1399	294	1145					633	2544
16:00	316		255						571	
16:15	327		293						620	
16:30	380		298						678	
16:45	332	1355	264	1110					596	2465
17:00	346		294						640	
17:15	357		245						602	
17:30	323		252						575	
17:45	318	1344	274	1065					592	2409
18:00	314		230						544	
18:15	291		226						517	
18:30	254		201						455	
18:45	266	1125	219	876					485	2001
19:00	300		229						529	
19:15	250		180						430	
19:30	202		174						376	
19:45	199	951	151	734					350	1685
20:00	203		166						369	
20:15	185		160						345	
20:30	172		134						306	
20:45	166	726	142	602					308	1328
21:00	167		144						311	
21:15	151		144						295	
21:30	137		106						243	
21:45	129	584	101	495					230	1079
22:00	105		83						188	
22:15	107		73						180	
22:30	122		86						208	
22:45	97	431	56	298					153	729
23:00	79		47						126	
23:15	70		52						122	
23:30	67		44						111	
23:45	48	264	41	184					89	448
TOTALS		12031		10061						22092
SPLIT %		54.5%		45.5%						62.3%

DAILY TOTALS	NB	SB	EB	WB	Total
	17,828	17,658	0	0	35,486

AM Peak Hour	11:30	07:15			11:30
AM Pk Volume	1210	1408			2473
Pk Hr Factor	0.954	0.957			0.986
7 - 9 Volume	1731	2610	0	0	4341
7 - 9 Peak Hour	07:45	07:15			07:45
7 - 9 Pk Volume	1031	1408	0	0	2328
Pk Hr Factor	0.927	0.957	0.000	0.000	0.901

PM Peak Hour	16:30	13:45			14:15
PM Pk Volume	1415	1231			2583
Pk Hr Factor	0.931	0.956			0.935
4 - 6 Volume	2699	2175	0	0	4874
4 - 6 Peak Hour	16:30	16:15			16:15
4 - 6 Pk Volume	1415	1149	0	0	2534
Pk Hr Factor	0.931	0.964	0.000	0.000	0.934

Prepared by NDS/ATD

VOLUME

Burbank Blvd W/o Woodman Ave

Day: Tuesday
Date: 5/15/2012

City: North Hollywood
Project #: CA12_5188_010

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	13,732	13,635	27,367

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			23		44		67		12:00			182		192		374	
00:15			24		24		48		12:15			174		178		352	
00:30			13		24		37		12:30			185		200		385	
00:45			14	74	24	116	38	190	12:45			214	755	191	761	405	1516
01:00			20		15		35		13:00			188		216		404	
01:15			9		13		22		13:15			181		200		381	
01:30			11		16		27		13:30			170		193		363	
01:45			6	46	13	57	19	103	13:45			173	712	195	804	368	1516
02:00			3		12		15		14:00			194		209		403	
02:15			11		13		24		14:15			189		208		397	
02:30			5		11		16		14:30			235		212		447	
02:45			7	26	10	46	17	72	14:45			225	843	200	829	425	1672
03:00			4		11		15		15:00			251		213		464	
03:15			6		11		17		15:15			246		212		458	
03:30			5		10		15		15:30			228		212		440	
03:45			5	20	15	47	20	67	15:45			245	970	242	879	487	1849
04:00			7		10		17		16:00			244		240		484	
04:15			8		14		22		16:15			275		240		515	
04:30			7		17		24		16:30			260		257		517	
04:45			7	29	13	54	20	83	16:45			272	1051	250	987	522	2038
05:00			13		17		30		17:00			282		253		535	
05:15			27		25		52		17:15			308		259		567	
05:30			28		53		81		17:30			268		250		518	
05:45			37	105	68	163	105	268	17:45			291	1149	264	1026	555	2175
06:00			42		72		114		18:00			280		263		543	
06:15			63		95		158		18:15			295		248		543	
06:30			110		126		236		18:30			270		249		519	
06:45			126	341	137	430	263	771	18:45			247	1092	231	991	478	2083
07:00			156		176		332		19:00			210		208		418	
07:15			229		226		455		19:15			176		183		359	
07:30			271		253		524		19:30			158		178		336	
07:45			319	975	275	930	594	1905	19:45			116	660	170	739	286	1399
08:00			284		272		556		20:00			138		148		286	
08:15			280		258		538		20:15			130		137		267	
08:30			270		225		495		20:30			100		131		231	
08:45			253	1087	236	991	489	2078	20:45			114	482	127	543	241	1025
09:00			278		189		467		21:00			99		102		201	
09:15			268		196		464		21:15			98		126		224	
09:30			231		212		443		21:30			99		105		204	
09:45			223	1000	209	806	432	1806	21:45			82	378	121	454	203	832
10:00			186		209		395		22:00			68		94		162	
10:15			180		174		354		22:15			61		90		151	
10:30			226		184		410		22:30			66		75		141	
10:45			193	785	184	751	377	1536	22:45			51	246	70	329	121	575
11:00			208		172		380		23:00			50		68		118	
11:15			172		156		328		23:15			39		53		92	
11:30			178		179		357		23:30			29		45		74	
11:45			195	753	191	698	386	1451	23:45			35	153	38	204	73	357
TOTALS				5241		5089		10330	TOTALS				8491		8546		17037
SPLIT %				50.7%		49.3%		37.7%	SPLIT %				49.8%		50.2%		62.3%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	13,732	13,635	27,367

AM Peak Hour			07:30	07:30	07:30	PM Peak Hour			17:00	17:15	17:15
AM Pk Volume			1154	1058	2212	PM Pk Volume			1149	1036	2183
Pk Hr Factor			0.904	0.962	0.931	Pk Hr Factor			0.933	0.981	0.963
7 - 9 Volume	0	0	2062	1921	3983	4 - 6 Volume	0	0	2200	2013	4213
7 - 9 Peak Hour			07:30	07:30	07:30	4 - 6 Peak Hour			17:00	17:00	17:00
7 - 9 Pk Volume	0	0	1154	1058	2212	4 - 6 Pk Volume	0	0	1149	1026	2175
Pk Hr Factor	0.000	0.000	0.904	0.962	0.931	Pk Hr Factor	0.000	0.000	0.933	0.972	0.959

Prepared by NDS/ATD

VOLUME

Magnolia Blvd E/o Van Nuys Blvd

Day: Tuesday
Date: 5/15/2012

City: North Hollywood
Project #: CA12_5188_011

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	10,951	11,400	22,351

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			17		12		29		12:00			145		149		294	
00:15			14		8		22		12:15			149		154		303	
00:30			8		9		17		12:30			124		127		251	
00:45			8	47	9	38	17	85	12:45			129	547	145	575	274	1122
01:00			3		4		7		13:00			138		160		298	
01:15			6		5		11		13:15			149		148		297	
01:30			5		9		14		13:30			119		183		302	
01:45			5	19	7	25	12	44	13:45			163	569	242	733	405	1302
02:00			5		5		10		14:00			141		189		330	
02:15			1		3		4		14:15			173		182		355	
02:30			2		3		5		14:30			174		181		355	
02:45			4	12	2	13	6	25	14:45			226	714	190	742	416	1456
03:00			3		1		4		15:00			217		212		429	
03:15			1		2		3		15:15			194		228		422	
03:30			3		2		5		15:30			195		233		428	
03:45			2	9	1	6	3	15	15:45			200	806	190	863	390	1669
04:00			1		3		4		16:00			229		149		378	
04:15			4		6		10		16:15			227		230		457	
04:30			2		7		9		16:30			247		208		455	
04:45			7	14	5	21	12	35	16:45			258	961	189	776	447	1737
05:00			9		12		21		17:00			274		215		489	
05:15			9		12		21		17:15			268		223		491	
05:30			15		20		35		17:30			286		246		532	
05:45			7	40	21	65	28	105	17:45			297	1125	220	904	517	2029
06:00			23		50		73		18:00			238		220		458	
06:15			32		73		105		18:15			205		216		421	
06:30			49		97		146		18:30			190		224		414	
06:45			86	190	131	351	217	541	18:45			154	787	200	860	354	1647
07:00			111		169		280		19:00			164		189		353	
07:15			174		215		389		19:15			153		174		327	
07:30			272		267		539		19:30			124		149		273	
07:45			316	873	332	983	648	1856	19:45			109	550	138	650	247	1200
08:00			269		285		554		20:00			116		103		219	
08:15			227		234		461		20:15			104		87		191	
08:30			224		240		464		20:30			101		89		190	
08:45			207	927	258	1017	465	1944	20:45			57	378	97	376	154	754
09:00			194		213		407		21:00			77		77		154	
09:15			201		195		396		21:15			69		76		145	
09:30			181		151		332		21:30			54		59		113	
09:45			148	724	151	710	299	1434	21:45			61	261	60	272	121	533
10:00			129		146		275		22:00			59		53		112	
10:15			130		158		288		22:15			38		44		82	
10:30			144		153		297		22:30			57		40		97	
10:45			148	551	157	614	305	1165	22:45			25	179	25	162	50	341
11:00			139		148		287		23:00			42		30		72	
11:15			133		146		279		23:15			25		23		48	
11:30			127		134		261		23:30			23		20		43	
11:45			150	549	126	554	276	1103	23:45			29	119	17	90	46	209
TOTALS				3955		4397		8352	TOTALS				6996		7003		13999
SPLIT %				47.4%		52.6%		37.4%	SPLIT %				50.0%		50.0%		62.6%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	10,951	11,400	22,351

AM Peak Hour			07:30	07:30	07:30	PM Peak Hour			17:00	17:15	17:00
AM Pk Volume			1084	1118	2202	PM Pk Volume			1125	909	2029
Pk Hr Factor			0.858	0.842	0.850	Pk Hr Factor			0.947	0.924	0.953
7 - 9 Volume	0	0	1800	2000	3800	4 - 6 Volume	0	0	2086	1680	3766
7 - 9 Peak Hour			07:30	07:30	07:30	4 - 6 Peak Hour			17:00	17:00	17:00
7 - 9 Pk Volume	0	0	1084	1118	2202	4 - 6 Pk Volume	0	0	1125	904	2029
Pk Hr Factor	0.000	0.000	0.858	0.842	0.850	Pk Hr Factor	0.000	0.000	0.947	0.919	0.953

Prepared by NDS/ATD

VOLUME

Victory Blvd W/o Hayvenhurst Ave

Day: Tuesday
Date: 5/15/2012

City: North Hollywood
Project #: CA12_5188_012

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	20,277	19,803	40,080

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			27		33		60		12:00			245		222		467	
00:15			22		30		52		12:15			234		236		470	
00:30			19		21		40		12:30			242		219		461	
00:45			17	85	20	104	37	189	12:45			274	995	238	915	512	1910
01:00			19		17		36		13:00			230		235		465	
01:15			15		27		42		13:15			265		232		497	
01:30			8		16		24		13:30			244		261		505	
01:45			12	54	15	75	27	129	13:45			276	1015	230	958	506	1973
02:00			12		11		23		14:00			302		258		560	
02:15			11		7		18		14:15			266		265		531	
02:30			8		9		17		14:30			329		300		629	
02:45			14	45	19	46	33	91	14:45			294	1191	305	1128	599	2319
03:00			8		9		17		15:00			327		296		623	
03:15			4		6		10		15:15			352		343		695	
03:30			10		14		24		15:30			399		327		726	
03:45			6	28	11	40	17	68	15:45			316	1394	360	1326	676	2720
04:00			9		14		23		16:00			400		322		722	
04:15			17		16		33		16:15			334		339		673	
04:30			19		21		40		16:30			384		367		751	
04:45			27	72	29	80	56	152	16:45			373	1491	362	1390	735	2881
05:00			40		24		64		17:00			396		374		770	
05:15			57		60		117		17:15			426		422		848	
05:30			65		114		179		17:30			436		422		858	
05:45			94	256	103	301	197	557	17:45			422	1680	354	1572	776	3252
06:00			150		114		264		18:00			401		392		793	
06:15			156		206		362		18:15			403		396		799	
06:30			209		298		507		18:30			349		345		694	
06:45			291	806	302	920	593	1726	18:45			331	1484	317	1450	648	2934
07:00			344		383		727		19:00			284		263		547	
07:15			384		467		851		19:15			277		277		554	
07:30			457		497		954		19:30			248		216		464	
07:45			382	1567	437	1784	819	3351	19:45			197	1006	204	960	401	1966
08:00			398		446		844		20:00			202		196		398	
08:15			396		440		836		20:15			190		212		402	
08:30			416		461		877		20:30			153		164		317	
08:45			376	1586	444	1791	820	3377	20:45			166	711	125	697	291	1408
09:00			351		387		738		21:00			136		157		293	
09:15			355		373		728		21:15			180		173		353	
09:30			346		341		687		21:30			151		139		290	
09:45			370	1422	340	1441	710	2863	21:45			126	593	122	591	248	1184
10:00			315		235		550		22:00			109		103		212	
10:15			274		218		492		22:15			126		101		227	
10:30			308		210		518		22:30			75		105		180	
10:45			265	1162	225	888	490	2050	22:45			70	380	77	386	147	766
11:00			275		185		460		23:00			77		67		144	
11:15			268		202		470		23:15			57		48		105	
11:30			241		195		436		23:30			55		38		93	
11:45			245	1029	190	772	435	1801	23:45			36	225	35	188	71	413
TOTALS				8112		8242		16354	TOTALS				12165		11561		23726
SPLIT %				49.6%		50.4%		40.8%	SPLIT %				51.3%		48.7%		59.2%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	20,277	19,803	40,080

AM Peak Hour			07:30	07:15	07:15	PM Peak Hour			17:15	17:15	17:15
AM Pk Volume			1633	1847	3468	PM Pk Volume			1685	1590	3275
Pk Hr Factor			0.893	0.929	0.909	Pk Hr Factor			0.966	0.942	0.954
7 - 9 Volume	0	0	3153	3575	6728	4 - 6 Volume	0	0	3171	2962	6133
7 - 9 Peak Hour			07:30	07:15	07:15	4 - 6 Peak Hour			17:00	16:45	17:00
7 - 9 Pk Volume	0	0	1633	1847	3468	4 - 6 Pk Volume	0	0	1680	1580	3252
Pk Hr Factor	0.000	0.000	0.893	0.929	0.909	Pk Hr Factor	0.000	0.000	0.963	0.936	0.948

Prepared by NDS/ATD

VOLUME

Victory Blvd E/o Reseda Blvd

Day: Tuesday
Date: 5/15/2012

City: North Hollywood
Project #: CA12_5188_013

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	19,385	18,203	37,588

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			42		27		69		12:00			218		226		444	
00:15			26		20		46		12:15			216		242		458	
00:30			17		23		40		12:30			286		254		540	
00:45			14	99	19	89	33	188	12:45			282	1002	272	994	554	1996
01:00			11		9		20		13:00			215		232		447	
01:15			10		7		17		13:15			251		265		516	
01:30			15		7		22		13:30			253		261		514	
01:45			12	48	8	31	20	79	13:45			277	996	280	1038	557	2034
02:00			12		8		20		14:00			275		223		498	
02:15			8		12		20		14:15			312		258		570	
02:30			11		7		18		14:30			296		277		573	
02:45			6	37	7	34	13	71	14:45			282	1165	281	1039	563	2204
03:00			4		6		10		15:00			323		308		631	
03:15			5		7		12		15:15			384		353		737	
03:30			7		5		12		15:30			327		340		667	
03:45			5	21	7	25	12	46	15:45			322	1356	303	1304	625	2660
04:00			10		18		28		16:00			341		299		640	
04:15			8		15		23		16:15			362		313		675	
04:30			10		21		31		16:30			348		343		691	
04:45			16	44	21	75	37	119	16:45			371	1422	357	1312	728	2734
05:00			29		23		52		17:00			379		334		713	
05:15			33		30		63		17:15			428		379		807	
05:30			52		89		141		17:30			421		383		804	
05:45			83	197	84	226	167	423	17:45			420	1648	384	1480	804	3128
06:00			98		87		185		18:00			408		377		785	
06:15			136		142		278		18:15			413		358		771	
06:30			201		200		401		18:30			367		310		677	
06:45			287	722	236	665	523	1387	18:45			367	1555	294	1339	661	2894
07:00			312		245		557		19:00			315		254		569	
07:15			386		374		760		19:15			220		226		446	
07:30			402		419		821		19:30			193		173		366	
07:45			450	1550	420	1458	870	3008	19:45			186	914	185	838	371	1752
08:00			376		426		802		20:00			216		168		384	
08:15			383		392		775		20:15			199		174		373	
08:30			312		358		670		20:30			177		131		308	
08:45			320	1391	389	1565	709	2956	20:45			153	745	123	596	276	1341
09:00			317		338		655		21:00			145		101		246	
09:15			288		327		615		21:15			188		123		311	
09:30			338		287		625		21:30			139		95		234	
09:45			303	1246	272	1224	575	2470	21:45			156	628	105	424	261	1052
10:00			266		255		521		22:00			110		80		190	
10:15			265		274		539		22:15			111		74		185	
10:30			261		260		521		22:30			78		83		161	
10:45			268	1060	277	1066	545	2126	22:45			80	379	58	295	138	674
11:00			262		230		492		23:00			73		47		120	
11:15			259		226		485		23:15			58		44		102	
11:30			215		232		447		23:30			42		38		80	
11:45			213	949	240	928	453	1877	23:45			38	211	29	158	67	369
TOTALS				7364		7386		**14750**	**TOTALS**				12021		10817		**22838**
SPLIT %				49.9%		50.1%		**39.2%**	**SPLIT %**				52.6%		47.4%		**60.8%**

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	19,385	18,203	37,588

AM Peak Hour			07:15	07:30	**07:30**	**PM Peak Hour**			17:15	17:15	**17:15**
AM Pk Volume			1614	1657	**3268**	**PM Pk Volume**			1677	1523	**3200**
Pk Hr Factor			0.897	0.972	**0.939**	**Pk Hr Factor**			0.980	0.992	**0.991**
7 - 9 Volume	0	0	2941	3023	**5964**	**4 - 6 Volume**	0	0	3070	2792	**5862**
7 - 9 Peak Hour			07:15	07:30	**07:30**	**4 - 6 Peak Hour**			17:00	17:00	**17:00**
7 - 9 Pk Volume	0	0	1614	1657	**3268**	**4 - 6 Pk Volume**	0	0	1648	1480	**3128**
Pk Hr Factor	0.000	0.000	0.897	0.972	**0.939**	**Pk Hr Factor**	0.000	0.000	0.963	0.964	**0.969**

Prepared by NDS/ATD

VOLUME

Balboa Blvd N/o Victory Blvd

Day: Tuesday
Date: 5/15/2012

City: North Hollywood
Project #: CA12_5188_014

DAILY TOTALS	NB	SB	EB	WB	Total
	15,078	15,458	0	0	30,536

AM Period	NB		SB		EB	WB	TOTAL	
00:00	41		21				62	
00:15	30		11				41	
00:30	27		9				36	
00:45	24	122	10	51			34	173
01:00	11		4				15	
01:15	10		8				18	
01:30	21		8				29	
01:45	13	55	6	26			19	81
02:00	13		5				18	
02:15	10		7				17	
02:30	8		6				14	
02:45	5	36	6	24			11	60
03:00	8		3				11	
03:15	4		8				12	
03:30	9		5				14	
03:45	9	30	8	24			17	54
04:00	5		8				13	
04:15	7		12				19	
04:30	16		15				31	
04:45	13	41	17	52			30	93
05:00	9		34				43	
05:15	21		55				76	
05:30	38		83				121	
05:45	47	115	123	295			170	410
06:00	58		190				248	
06:15	50		276				326	
06:30	76		358				434	
06:45	99	283	374	1198			473	1481
07:00	133		415				548	
07:15	120		383				503	
07:30	181		407				588	
07:45	201	635	420	1625			621	2260
08:00	186		407				593	
08:15	165		404				569	
08:30	184		439				623	
08:45	176	711	404	1654			580	2365
09:00	184		341				525	
09:15	172		296				468	
09:30	178		278				456	
09:45	185	719	268	1183			453	1902
10:00	200		231				431	
10:15	182		256				438	
10:30	177		210				387	
10:45	181	740	211	908			392	1648
11:00	189		174				363	
11:15	199		188				387	
11:30	211		206				417	
11:45	233	832	184	752			417	1584
TOTALS		4319		7792				**12111**
SPLIT %		35.7%		64.3%				**39.7%**

PM Period	NB		SB		EB	WB	TOTAL	
12:00	214		184				398	
12:15	216		219				435	
12:30	222		207				429	
12:45	234	886	228	838			462	1724
13:00	248		193				441	
13:15	229		208				437	
13:30	252		215				467	
13:45	242	971	233	849			475	1820
14:00	249		203				452	
14:15	271		185				456	
14:30	270		248				518	
14:45	271	1061	226	862			497	1923
15:00	268		229				497	
15:15	282		279				561	
15:30	291		260				551	
15:45	283	1124	203	971			486	2095
16:00	321		232				553	
16:15	280		226				506	
16:30	364		233				597	
16:45	339	1304	207	898			546	2202
17:00	378		202				580	
17:15	390		236				626	
17:30	406		247				653	
17:45	353	1527	208	893			561	2420
18:00	364		210				574	
18:15	297		199				496	
18:30	348		236				584	
18:45	266	1275	172	817			438	2092
19:00	245		174				419	
19:15	252		153				405	
19:30	213		130				343	
19:45	177	887	20	477			197	1364
20:00	185		127				312	
20:15	186		135				321	
20:30	147		92				239	
20:45	136	654	106	460			242	1114
21:00	134		109				243	
21:15	121		79				200	
21:30	103		76				179	
21:45	100	458	54	318			154	776
22:00	104		66				170	
22:15	101		50				151	
22:30	97		48				145	
22:45	86	388	27	191			113	579
23:00	79		36				115	
23:15	48		21				69	
23:30	56		18				74	
23:45	41	224	17	92			58	316
TOTALS		10759		7666				**18425**
SPLIT %		58.4%		41.6%				**60.3%**

DAILY TOTALS	NB	SB	EB	WB	Total
	15,078	15,458	0	0	30,536

AM Peak Hour	11:45	07:45			**07:45**	**PM Peak Hour**	17:00	14:45			**17:00**
AM Pk Volume	885	1670			**2406**	**PM Pk Volume**	1527	994			**2420**
Pk Hr Factor	0.950	0.951			**0.965**	**Pk Hr Factor**	0.940	0.891			**0.926**
7 - 9 Volume	1346	3279	0	0	**4625**	**4 - 6 Volume**	2831	1791	0	0	**4622**
7 - 9 Peak Hour	07:45	07:45			**07:45**	**4 - 6 Peak Hour**	17:00	16:00			**17:00**
7 - 9 Pk Volume	736	1670	0	0	**2406**	**4 - 6 Pk Volume**	1527	898	0	0	**2420**
Pk Hr Factor	0.915	0.951	0.000	0.000	**0.965**	**Pk Hr Factor**	0.940	0.964	0.000	0.000	**0.926**

Prepared by NDS/ATD

VOLUME

Woodley Ave N/o Sherman Way

Day: Tuesday
Date: 5/15/2012

City: North Hollywood
Project #: CA12_5188_015

DAILY TOTALS	NB	SB	EB	WB	Total
	13,699	13,256	0	0	26,955

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOTAL	
00:00	13		21				34		12:00	175		178				353	
00:15	17		21				38		12:15	208		191				399	
00:30	14		11				25		12:30	207		182				389	
00:45	20	64	12	65			32	129	12:45	204	794	162	713			366	1507
01:00	21		17				38		13:00	215		171				386	
01:15	19		15				34		13:15	203		167				370	
01:30	13		34				47		13:30	184		178				362	
01:45	16	69	21	87			37	156	13:45	220	822	167	683			387	1505
02:00	11		21				32		14:00	205		164				369	
02:15	16		10				26		14:15	214		173				387	
02:30	9		5				14		14:30	262		177				439	
02:45	20	56	9	45			29	101	14:45	269	950	209	723			478	1673
03:00	10		7				17		15:00	243		195				438	
03:15	20		9				29		15:15	241		172				413	
03:30	16		8				24		15:30	274		215				489	
03:45	18	64	8	32			26	96	15:45	237	995	203	785			440	1780
04:00	31		12				43		16:00	240		183				423	
04:15	36		5				41		16:15	283		181				464	
04:30	34		9				43		16:30	287		192				479	
04:45	48	149	15	41			63	190	16:45	316	1126	205	761			521	1887
05:00	39		28				67		17:00	308		227				535	
05:15	62		30				92		17:15	318		208				526	
05:30	88		52				140		17:30	314		195				509	
05:45	117	306	121	231			238	537	17:45	331	1271	165	795			496	2066
06:00	99		146				245		18:00	268		175				443	
06:15	151		239				390		18:15	275		159				434	
06:30	137		280				417		18:30	217		178				395	
06:45	147	534	323	988			470	1522	18:45	220	980	123	635			343	1615
07:00	151		385				536		19:00	168		140				308	
07:15	170		383				553		19:15	175		114				289	
07:30	152		386				538		19:30	141		102				243	
07:45	191	664	404	1558			595	2222	19:45	147	631	114	470			261	1101
08:00	185		425				610		20:00	175		123				298	
08:15	177		376				553		20:15	163		90				253	
08:30	168		305				473		20:30	114		87				201	
08:45	168	698	311	1417			479	2115	20:45	116	568	71	371			187	939
09:00	189		290				479		21:00	133		70				203	
09:15	180		269				449		21:15	87		75				162	
09:30	188		205				393		21:30	90		66				156	
09:45	163	720	200	964			363	1684	21:45	79	389	57	268			136	657
10:00	191		162				353		22:00	75		67				142	
10:15	172		184				356		22:15	71		56				127	
10:30	185		150				335		22:30	57		52				109	
10:45	170	718	159	655			329	1373	22:45	57	260	28	203			85	463
11:00	176		145				321		23:00	43		44				87	
11:15	167		155				322		23:15	36		38				74	
11:30	187		157				344		23:30	28		38				66	
11:45	201	731	169	626			370	1357	23:45	33	140	20	140			53	280
TOTALS		4773		6709				11482	TOTALS		8926		6547				15473
SPLIT %		41.6%		58.4%				42.6%	SPLIT %		57.7%		42.3%				57.4%

DAILY TOTALS	NB	SB	EB	WB	Total
	13,699	13,256	0	0	26,955

AM Peak Hour	11:45	07:15			07:15	PM Peak Hour	17:00	16:45			16:45
AM Pk Volume	791	1598			2296	PM Pk Volume	1271	835			2091
Pk Hr Factor	0.951	0.940			0.941	Pk Hr Factor	0.960	0.920			0.977
7 - 9 Volume	1362	2975	0	0	4337	4 - 6 Volume	2397	1556	0	0	3953
7 - 9 Peak Hour	07:45	07:15			07:15	4 - 6 Peak Hour	17:00	16:45			16:45
7 - 9 Pk Volume	721	1598	0	0	2296	4 - 6 Pk Volume	1271	835	0	0	2091
Pk Hr Factor	0.944	0.940	0.000	0.000	0.941	Pk Hr Factor	0.960	0.920	0.000	0.000	0.977

Prepared by NDS/ATD

VOLUME

Roscoe Blvd W/o Woodley Ave

Day: Tuesday
Date: 5/15/2012

City: North Hollywood
Project #: CA12_5188_016

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	21,126	21,156	42,282

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			56		48		104		12:00			266		258		524	
00:15			46		63		109		12:15			282		233		515	
00:30			47		63		110		12:30			296		234		530	
00:45			29	178	38	212	67	390	12:45			267	1111	261	986	528	2097
01:00			34		52		86		13:00			287		256		543	
01:15			28		34		62		13:15			279		232		511	
01:30			33		31		64		13:30			319		263		582	
01:45			20	115	32	149	52	264	13:45			340	1225	219	970	559	2195
02:00			29		38		67		14:00			301		229		530	
02:15			28		34		62		14:15			343		294		637	
02:30			35		16		51		14:30			348		378		726	
02:45			27	119	21	109	48	228	14:45			382	1374	362	1263	744	2637
03:00			26		26		52		15:00			338		342		680	
03:15			25		16		41		15:15			346		345		691	
03:30			17		22		39		15:30			387		348		735	
03:45			43	111	20	84	63	195	15:45			391	1462	327	1362	718	2824
04:00			31		26		57		16:00			368		359		727	
04:15			54		37		91		16:15			384		376		760	
04:30			51		39		90		16:30			386		361		747	
04:45			63	199	68	170	131	369	16:45			385	1523	393	1489	778	3012
05:00			68		74		142		17:00			419		369		788	
05:15			104		93		197		17:15			413		349		762	
05:30			154		133		287		17:30			403		395		798	
05:45			192	518	182	482	374	1000	17:45			409	1644	330	1443	739	3087
06:00			173		176		349		18:00			374		325		699	
06:15			206		245		451		18:15			333		366		699	
06:30			243		297		540		18:30			297		362		659	
06:45			267	889	393	1111	660	2000	18:45			319	1323	298	1351	617	2674
07:00			282		322		604		19:00			278		277		555	
07:15			340		471		811		19:15			285		271		556	
07:30			384		502		886		19:30			249		257		506	
07:45			391	1397	543	1838	934	3235	19:45			214	1026	256	1061	470	2087
08:00			343		424		767		20:00			222		220		442	
08:15			357		492		849		20:15			215		196		411	
08:30			303		376		679		20:30			180		186		366	
08:45			356	1359	348	1640	704	2999	20:45			166	783	197	799	363	1582
09:00			275		327		602		21:00			169		220		389	
09:15			264		307		571		21:15			182		186		368	
09:30			270		280		550		21:30			147		157		304	
09:45			272	1081	266	1180	538	2261	21:45			154	652	149	712	303	1364
10:00			292		223		515		22:00			102		157		259	
10:15			259		234		493		22:15			157		158		315	
10:30			287		223		510		22:30			98		124		222	
10:45			264	1102	229	909	493	2011	22:45			106	463	124	563	230	1026
11:00			263		225		488		23:00			97		109		206	
11:15			257		204		461		23:15			97		95		192	
11:30			287		214		501		23:30			76		105		181	
11:45			320	1127	233	876	553	2003	23:45			75	345	88	397	163	742
TOTALS				8195		8760		16955	TOTALS				12931		12396		25327
SPLIT %				48.3%		51.7%		40.1%	SPLIT %				51.1%		48.9%		59.9%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	21,126	21,156	42,282

AM Peak Hour			07:30	07:30	07:30	PM Peak Hour			17:00	16:45	16:45
AM Pk Volume			1475	1961	3436	PM Pk Volume			1644	1506	3126
Pk Hr Factor			0.943	0.903	0.920	Pk Hr Factor			0.981	0.953	0.979
7 - 9 Volume	0	0	2756	3478	6234	4 - 6 Volume	0	0	3167	2932	6099
7 - 9 Peak Hour			07:30	07:30	07:30	4 - 6 Peak Hour			17:00	16:45	16:45
7 - 9 Pk Volume	0	0	1475	1961	3436	4 - 6 Pk Volume	0	0	1644	1506	3126
Pk Hr Factor	0.000	0.000	0.943	0.903	0.920	Pk Hr Factor	0.000	0.000	0.981	0.953	0.979

Prepared by NDS/ATD

VOLUME

Roscoe Blvd W/o Haskell Ave

Day: Tuesday
Date: 5/15/2012

City: North Hollywood
Project #: CA12_5188_017

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	23,955	23,859	47,814

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			71		86		157		12:00			320		268		588	
00:15			58		79		137		12:15			326		224		550	
00:30			62		69		131		12:30			322		226		548	
00:45			50	241	53	287	103	528	12:45			339	1307	270	988	609	2295
01:00			56		78		134		13:00			333		256		589	
01:15			49		52		101		13:15			332		227		559	
01:30			70		34		104		13:30			343		251		594	
01:45			35	210	55	219	90	429	13:45			356	1364	243	977	599	2341
02:00			53		49		102		14:00			342		227		569	
02:15			38		43		81		14:15			361		301		662	
02:30			38		40		78		14:30			396		421		817	
02:45			45	174	33	165	78	339	14:45			452	1551	415	1364	867	2915
03:00			37		36		73		15:00			397		338		735	
03:15			35		42		77		15:15			342		353		695	
03:30			27		39		66		15:30			441		336		777	
03:45			48	147	65	182	113	329	15:45			446	1626	367	1394	813	3020
04:00			45		45		90		16:00			428		348		776	
04:15			67		69		136		16:15			432		355		787	
04:30			53		102		155		16:30			457		347		804	
04:45			63	228	149	365	212	593	16:45			443	1760	401	1451	844	3211
05:00			99		112		211		17:00			511		359		870	
05:15			113		166		279		17:15			490		353		843	
05:30			162		231		393		17:30			449		334		783	
05:45			199	573	288	797	487	1370	17:45			480	1930	369	1415	849	3345
06:00			176		269		445		18:00			430		318		748	
06:15			213		327		540		18:15			376		405		781	
06:30			259		355		614		18:30			367		380		747	
06:45			266	914	480	1431	746	2345	18:45			377	1550	341	1444	718	2994
07:00			279		420		699		19:00			304		323		627	
07:15			316		502		818		19:15			345		273		618	
07:30			365		556		921		19:30			280		283		563	
07:45			315	1275	598	2076	913	3351	19:45			258	1187	261	1140	519	2327
08:00			358		545		903		20:00			244		246		490	
08:15			303		545		848		20:15			261		229		490	
08:30			338		482		820		20:30			212		231		443	
08:45			345	1344	388	1960	733	3304	20:45			217	934	246	952	463	1886
09:00			308		358		666		21:00			211		239		450	
09:15			324		291		615		21:15			208		230		438	
09:30			298		291		589		21:30			157		205		362	
09:45			288	1218	287	1227	575	2445	21:45			179	755	201	875	380	1630
10:00			333		257		590		22:00			156		193		349	
10:15			320		275		595		22:15			149		197		346	
10:30			339		263		602		22:30			195		152		347	
10:45			309	1301	248	1043	557	2344	22:45			127	627	144	686	271	1313
11:00			288		248		536		23:00			140		129		269	
11:15			289		199		488		23:15			121		130		251	
11:30			320		245		565		23:30			126		114		240	
11:45			359	1256	254	946	613	2202	23:45			96	483	102	475	198	958
TOTALS				8881		10698		19579	TOTALS				15074		13161		28235
SPLIT %				45.4%		54.6%		40.9%	SPLIT %				53.4%		46.6%		59.1%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	23,955	23,859	47,814

AM Peak Hour			07:15	07:30	07:30	PM Peak Hour			17:00	14:30	16:30
AM Pk Volume			1354	2244	3585	PM Pk Volume			1930	1527	3361
Pk Hr Factor			0.927	0.938	0.973	Pk Hr Factor			0.944	0.907	0.966
7 - 9 Volume	0	0	2619	4036	6655	4 - 6 Volume	0	0	3690	2866	6556
7 - 9 Peak Hour			07:15	07:30	07:30	4 - 6 Peak Hour			17:00	16:15	16:30
7 - 9 Pk Volume	0	0	1354	2244	3585	4 - 6 Pk Volume	0	0	1930	1462	3361
Pk Hr Factor	0.000	0.000	0.927	0.938	0.973	Pk Hr Factor	0.000	0.000	0.944	0.911	0.966

Prepared by NDS/ATD

VOLUME

Haskell Ave S/o Parthenia St

Day: Tuesday
Date: 5/15/2012

City: North Hollywood
Project #: CA12_5188_018

DAILY TOTALS	NB	SB	EB	WB	Total
	3,213	3,605	0	0	6,818

AM Period	NB		SB		EB		WB		TOTAL		PM Period	NB		SB		EB		WB		TOTAL	
00:00	7		7						14		12:00	34		36						70	
00:15	5		6						11		12:15	36		51						87	
00:30	3		4						7		12:30	27		46						73	
00:45	4	19	2	19					6	38	12:45	33	130	43	176					76	306
01:00	4		3						7		13:00	41		55						96	
01:15	5		5						10		13:15	38		45						83	
01:30	6		5						11		13:30	42		48						90	
01:45	4	19	7	20					11	39	13:45	48	169	40	188					88	357
02:00	5		6						11		14:00	40		60						100	
02:15	1		1						2		14:15	46		89						135	
02:30	3		1						4		14:30	85		64						149	
02:45	3	12	2	10					5	22	14:45	64	235	51	264					115	499
03:00	0		1						1		15:00	66		66						132	
03:15	2		2						4		15:15	45		57						102	
03:30	3		3						6		15:30	59		49						108	
03:45	4	9	6	12					10	21	15:45	78	248	42	214					120	462
04:00	2		3						5		16:00	64		44						108	
04:15	5		2						7		16:15	82		56						138	
04:30	3		6						9		16:30	63		49						112	
04:45	8	18	10	21					18	39	16:45	72	281	38	187					110	468
05:00	5		17						22		17:00	81		52						133	
05:15	17		23						40		17:15	97		58						155	
05:30	26		41						67		17:30	80		60						140	
05:45	36	84	54	135					90	219	17:45	85	343	66	236					151	579
06:00	27		35						62		18:00	74		43						117	
06:15	33		57						90		18:15	55		44						99	
06:30	39		29						68		18:30	56		35						91	
06:45	28	127	73	194					101	321	18:45	56	241	47	169					103	410
07:00	31		61						92		19:00	43		49						92	
07:15	52		84						136		19:15	49		34						83	
07:30	97		116						213		19:30	39		31						70	
07:45	74	254	147	408					221	662	19:45	29	160	25	139					54	299
08:00	49		139						188		20:00	36		27						63	
08:15	34		109						143		20:15	32		36						68	
08:30	37		68						105		20:30	22		33						55	
08:45	35	155	80	396					115	551	20:45	24	114	31	127					55	241
09:00	26		59						85		21:00	22		35						57	
09:15	26		47						73		21:15	33		29						62	
09:30	32		42						74		21:30	29		16						45	
09:45	32	116	43	191					75	307	21:45	27	111	11	91					38	202
10:00	22		44						66		22:00	23		23						46	
10:15	27		30						57		22:15	24		8						32	
10:30	22		40						62		22:30	15		11						26	
10:45	31	102	40	154					71	256	22:45	19	81	10	52					29	133
11:00	34		36						70		23:00	18		13						31	
11:15	29		43						72		23:15	14		12						26	
11:30	39		41						80		23:30	11		7						18	
11:45	22	124	40	160					62	284	23:45	18	61	10	42					28	103
TOTALS		1039		1720						**2759**	**TOTALS**		2174		1885						**4059**
SPLIT %		37.7%		62.3%						**40.5%**	**SPLIT %**		53.6%		46.4%						**59.5%**

DAILY TOTALS	NB	SB	EB	WB	Total
	3,213	3,605	0	0	6,818

AM Peak Hour	07:15	07:30			**07:30**	**PM Peak Hour**	17:00	14:15			**17:00**
AM Pk Volume	272	511			**765**	**PM Pk Volume**	343	270			**579**
Pk Hr Factor	0.701	0.869			**0.865**	**Pk Hr Factor**	0.884	0.758			**0.934**
7 - 9 Volume	409	804	0	0	**1213**	**4 - 6 Volume**	624	423	0	0	**1047**
7 - 9 Peak Hour	07:15	07:30			**07:30**	**4 - 6 Peak Hour**	17:00	17:00			**17:00**
7 - 9 Pk Volume	272	511	0	0	**765**	**4 - 6 Pk Volume**	343	236	0	0	**579**
Pk Hr Factor	0.701	0.869	0.000	0.000	**0.865**	**Pk Hr Factor**	0.884	0.894	0.000	0.000	**0.934**

Prepared by NDS/ATD

VOLUME

Haskell Ave N/o Nordhoff St

Day: Tuesday
Date: 5/15/2012

City: North Hollywood
Project #: CA12_5188_019

DAILY TOTALS	NB	SB	EB	WB	Total
	5,120	5,362	0	0	10,482

AM Period	NB		SB		EB		WB		TOTAL	
00:00	6		1						7	
00:15	10		6						16	
00:30	3		7						10	
00:45	4	23	4	18					8	41
01:00	4		5						9	
01:15	3		2						5	
01:30	2		1						3	
01:45	7	16	3	11					10	27
02:00	2		3						5	
02:15	4		2						6	
02:30	5		2						7	
02:45	3	14	1	8					4	22
03:00	3		1						4	
03:15	2		2						4	
03:30	1		2						3	
03:45	4	10	5	10					9	20
04:00	1		1						2	
04:15	2		4						6	
04:30	3		2						5	
04:45	6	12	10	17					16	29
05:00	4		7						11	
05:15	4		20						24	
05:30	12		41						53	
05:45	22	42	30	98					52	140
06:00	20		37						57	
06:15	22		50						72	
06:30	42		49						91	
06:45	60	144	112	248					172	392
07:00	57		94						151	
07:15	90		161						251	
07:30	151		198						349	
07:45	158	456	249	702					407	1158
08:00	120		251						371	
08:15	109		180						289	
08:30	85		113						198	
08:45	63	377	83	627					146	1004
09:00	57		76						133	
09:15	57		80						137	
09:30	44		59						103	
09:45	60	218	61	276					121	494
10:00	57		65						122	
10:15	45		56						101	
10:30	48		67						115	
10:45	60	210	45	233					105	443
11:00	32		56						88	
11:15	39		56						95	
11:30	51		63						114	
11:45	62	184	65	240					127	424
TOTALS		1706		2488						4194
SPLIT %		40.7%		59.3%						40.0%

PM Period	NB		SB		EB		WB		TOTAL	
12:00	55		72						127	
12:15	66		55						121	
12:30	62		78						140	
12:45	73	256	65	270					138	526
13:00	71		64						135	
13:15	76		54						130	
13:30	77		59						136	
13:45	83	307	79	256					162	563
14:00	109		78						187	
14:15	145		213						358	
14:30	103		93						196	
14:45	101	458	92	476					193	934
15:00	91		112						203	
15:15	85		91						176	
15:30	73		73						146	
15:45	85	334	69	345					154	679
16:00	96		82						178	
16:15	114		94						208	
16:30	118		89						207	
16:45	131	459	83	348					214	807
17:00	112		91						203	
17:15	140		96						236	
17:30	133		92						225	
17:45	121	506	84	363					205	869
18:00	105		85						190	
18:15	97		75						172	
18:30	77		67						144	
18:45	87	366	50	277					137	643
19:00	74		55						129	
19:15	79		47						126	
19:30	47		50						97	
19:45	39	239	30	182					69	421
20:00	43		36						79	
20:15	35		32						67	
20:30	47		26						73	
20:45	34	159	33	127					67	286
21:00	43		29						72	
21:15	38		31						69	
21:30	58		22						80	
21:45	40	179	26	108					66	287
22:00	19		35						54	
22:15	34		22						56	
22:30	19		18						37	
22:45	17	89	11	86					28	175
23:00	22		13						35	
23:15	13		11						24	
23:30	11		8						19	
23:45	16	62	4	36					20	98
TOTALS		3414		2874						6288
SPLIT %		54.3%		45.7%						60.0%

DAILY TOTALS	NB	SB	EB	WB	Total
	5,120	5,362	0	0	10,482

AM Peak Hour	07:30	07:30			07:30	PM Peak Hour	16:45	14:15			14:15
AM Pk Volume	538	878			1416	PM Pk Volume	516	510			950
Pk Hr Factor	0.851	0.875			0.870	Pk Hr Factor	0.921	0.599			0.663
7 - 9 Volume	833	1329	0	0	2162	4 - 6 Volume	965	711	0	0	1676
7 - 9 Peak Hour	07:30	07:30			07:30	4 - 6 Peak Hour	16:45	17:00			16:45
7 - 9 Pk Volume	538	878	0	0	1416	4 - 6 Pk Volume	516	363	0	0	878
Pk Hr Factor	0.851	0.875	0.000	0.000	0.870	Pk Hr Factor	0.921	0.945	0.000	0.000	0.930

Prepared by NDS/ATD

VOLUME

Victory Blvd W/o Reseda Blvd

Day: Tuesday
Date: 5/15/2012

City: North Hollywood
Project #: CA12_5188_020

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	19,321	18,019	37,340

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			35		27		62		12:00			229		225		454	
00:15			19		18		37		12:15			252		257		509	
00:30			14		12		26		12:30			284		280		564	
00:45			18	86	19	76	37	162	12:45			300	1065	272	1034	572	2099
01:00			15		13		28		13:00			244		260		504	
01:15			14		13		27		13:15			263		255		518	
01:30			3		9		12		13:30			250		262		512	
01:45			15	47	7	42	22	89	13:45			265	1022	272	1049	537	2071
02:00			10		6		16		14:00			265		257		522	
02:15			7		13		20		14:15			278		261		539	
02:30			7		7		14		14:30			272		291		563	
02:45			11	35	9	35	20	70	14:45			271	1086	284	1093	555	2179
03:00			11		4		15		15:00			362		323		685	
03:15			5		5		10		15:15			393		377		770	
03:30			12		3		15		15:30			281		372		653	
03:45			12	40	6	18	18	58	15:45			354	1390	338	1410	692	2800
04:00			5		9		14		16:00			387		358		745	
04:15			5		13		18		16:15			372		356		728	
04:30			16		18		34		16:30			364		342		706	
04:45			10	36	14	54	24	90	16:45			390	1513	329	1385	719	2898
05:00			25		17		42		17:00			376		383		759	
05:15			45		30		75		17:15			430		421		851	
05:30			57		59		116		17:30			389		373		762	
05:45			68	195	67	173	135	368	17:45			397	1592	383	1560	780	3152
06:00			87		77		164		18:00			364		414		778	
06:15			134		107		241		18:15			404		375		779	
06:30			219		169		388		18:30			390		341		731	
06:45			270	710	207	560	477	1270	18:45			344	1502	343	1473	687	2975
07:00			358		264		622		19:00			288		296		584	
07:15			374		324		698		19:15			250		254		504	
07:30			411		388		799		19:30			205		217		422	
07:45			440	1583	396	1372	836	2955	19:45			180	923	193	960	373	1883
08:00			370		382		752		20:00			219		147		366	
08:15			349		363		712		20:15			197		161		358	
08:30			301		331		632		20:30			194		129		323	
08:45			317	1337	356	1432	673	2769	20:45			183	793	112	549	295	1342
09:00			292		321		613		21:00			170		106		276	
09:15			266		260		526		21:15			186		107		293	
09:30			336		253		589		21:30			138		91		229	
09:45			289	1183	228	1062	517	2245	21:45			145	639	73	377	218	1016
10:00			240		244		484		22:00			136		79		215	
10:15			237		220		457		22:15			138		73		211	
10:30			225		255		480		22:30			83		65		148	
10:45			253	955	244	963	497	1918	22:45			65	422	60	277	125	699
11:00			244		220		464		23:00			73		46		119	
11:15			221		214		435		23:15			74		41		115	
11:30			234		249		483		23:30			51		36		87	
11:45			234	933	236	919	470	1852	23:45			36	234	23	146	59	380
TOTALS				7140		6706		13846	TOTALS				12181		11313		23494
SPLIT %				51.6%		48.4%		37.1%	SPLIT %				51.8%		48.2%		62.9%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	19,321	18,019	37,340

AM Peak Hour			07:15	07:30	07:30	PM Peak Hour			17:00	17:15	17:15
AM Pk Volume			1595	1529	3099	PM Pk Volume			1592	1591	3171
Pk Hr Factor			0.906	0.965	0.927	Pk Hr Factor			0.926	0.945	0.932
7 - 9 Volume	0	0	2920	2804	5724	4 - 6 Volume	0	0	3105	2945	6050
7 - 9 Peak Hour			07:15	07:30	07:30	4 - 6 Peak Hour			17:00	17:00	17:00
7 - 9 Pk Volume	0	0	1595	1529	3099	4 - 6 Pk Volume	0	0	1592	1560	3152
Pk Hr Factor	0.000	0.000	0.906	0.965	0.927	Pk Hr Factor	0.000	0.000	0.926	0.926	0.926

Prepared by NDS/ATD

VOLUME

Victory Blvd E/o Mason Ave/Stadium Way

Day: Tuesday
Date: 5/15/2012

City: North Hollywood
Project #: CA12_5188_021

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	19,155	18,584	37,739

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			34		29		63		12:00			232		276		508	
00:15			24		28		52		12:15			262		249		511	
00:30			21		21		42		12:30			377		300		677	
00:45			21	100	16	94	37	194	12:45			304	1175	296	1121	600	2296
01:00			19		12		31		13:00			321		247		568	
01:15			10		13		23		13:15			273		232		505	
01:30			12		11		23		13:30			265		267		532	
01:45			10	51	7	43	17	94	13:45			283	1142	233	979	516	2121
02:00			9		10		19		14:00			346		277		623	
02:15			6		6		12		14:15			294		284		578	
02:30			10		4		14		14:30			309		329		638	
02:45			9	34	6	26	15	60	14:45			287	1236	283	1173	570	2409
03:00			5		8		13		15:00			354		282		636	
03:15			9		9		18		15:15			322		285		607	
03:30			10		5		15		15:30			359		302		661	
03:45			4	28	8	30	12	58	15:45			394	1429	356	1225	750	2654
04:00			10		6		16		16:00			397		321		718	
04:15			10		9		19		16:15			392		322		714	
04:30			10		17		27		16:30			388		311		699	
04:45			14	44	24	56	38	100	16:45			391	1568	330	1284	721	2852
05:00			25		16		41		17:00			452		321		773	
05:15			29		38		67		17:15			427		356		783	
05:30			50		45		95		17:30			450		351		801	
05:45			51	155	100	199	151	354	17:45			479	1808	362	1390	841	3198
06:00			56		76		132		18:00			417		327		744	
06:15			81		126		207		18:15			418		347		765	
06:30			135		206		341		18:30			387		307		694	
06:45			164	436	277	685	441	1121	18:45			336	1558	322	1303	658	2861
07:00			244		248		492		19:00			268		288		556	
07:15			236		383		619		19:15			236		269		505	
07:30			327		481		808		19:30			250		222		472	
07:45			306	1113	484	1596	790	2709	19:45			216	970	218	997	434	1967
08:00			304		441		745		20:00			241		199		440	
08:15			256		383		639		20:15			209		215		424	
08:30			232		384		616		20:30			243		178		421	
08:45			240	1032	351	1559	591	2591	20:45			221	914	166	758	387	1672
09:00			228		274		502		21:00			257		156		413	
09:15			246		302		548		21:15			193		120		313	
09:30			269		247		516		21:30			202		137		339	
09:45			210	953	256	1079	466	2032	21:45			173	825	124	537	297	1362
10:00			248		222		470		22:00			170		101		271	
10:15			193		248		441		22:15			140		100		240	
10:30			211		226		437		22:30			83		80		163	
10:45			257	909	238	934	495	1843	22:45			65	458	65	346	130	804
11:00			324		267		591		23:00			66		48		114	
11:15			232		233		465		23:15			63		62		125	
11:30			226		244		470		23:30			57		28		85	
11:45			219	1001	246	990	465	1991	23:45			30	216	42	180	72	396
TOTALS				5856		7291		13147	TOTALS				13299		11293		24592
SPLIT %				44.5%		55.5%		34.8%	SPLIT %				54.1%		45.9%		65.2%

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	19,155	18,584	37,739

AM Peak Hour			07:30	07:15	07:30	PM Peak Hour			17:00	17:15	17:00
AM Pk Volume			1193	1789	2982	PM Pk Volume			1808	1396	3198
Pk Hr Factor			0.912	0.924	0.923	Pk Hr Factor			0.944	0.964	0.951
7 - 9 Volume	0	0	2145	3155	5300	4 - 6 Volume	0	0	3376	2674	6050
7 - 9 Peak Hour			07:30	07:15	07:30	4 - 6 Peak Hour			17:00	17:00	17:00
7 - 9 Pk Volume	0	0	1193	1789	2982	4 - 6 Pk Volume	0	0	1808	1390	3198
Pk Hr Factor	0.000	0.000	0.912	0.924	0.923	Pk Hr Factor	0.000	0.000	0.944	0.960	0.951

APPENDIX B –
RELATED PROJECT LIST

	Project Name	Location	Land use	Size	Units	Daily Total	AM Peak			PM Peak		
							In	Out	Total	In	Out	Total
1	Crestview Private Elementary	18701 Calvert St	School	420	Enrollment	1504	181	205	386	97	79	176
2	Corbin Village Shopping Center	19750 Ventura Bl	Retail	55340	S.F. Gross Area	3893	36	23	59	95	87	182
3	REW Holdings LLC (Panavision site)	6219 De Soto Av	Office Industrial Apartments Apartments	-76242 -76242 394 574	S.F. Gross Area S.F. Gross Area Total Units Total Units	3858	-93	230	137	229	-19	210
4	Trammell Crow Residential (TCR)	6355 De Soto Av	Apartments	421	Total Units	2442	-4	149	145	138	48	186
5	Chalk Hill Residential Project	20600 Ventura Bl	Condominiums	340	Total Units	2559	37	130	167	134	78	212
6	Samiti Yog/Meditation Center	5530 Donna Av	Apartments Other	15 240	Persons Seats	290	41	43	84	6	0	6
7	Warner Center Apartments	6700 Eton Av	Mixed Use Mixed Use Apartments	438 10000 441	Total Units S.F. Gross Area Total Units	2774	85	338	423	333	179	512
8	Warner Business Center Office Bldg	6464 Canoga Av	Office Retail Office	154565 16117 -65903	S.F. Gross Area S.F. Gross Area S.F. Gross Area	1414	131	41	172	47	94	141
9	Apartments	6701 Eton Av	Apartments	297	Total Units	973	4	16	20	8	5	13
10	Mixed-Use	5521 Reseda Bl	Condominiums Retail Office	111 1054 20344	Total Units S.F. Gross Area S.F. Gross Area	956	69	64	133	35	54	89
11	Supermarket	17401 Ventura Bl	Retail	14500	S.F. Gross Area	889	17	11	28	46	45	91
12	The Ventana	18131 Ventura Bl	Office Office Retail	126734 16000 -19792	S.F. Gross Area S.F. Gross Area S.F. Gross Area	3290	215	49	264	59	249	308
13	Reseda Residential-UHC	7251 Amigo Av	Apartments	200	Total Units	1134	16	59	75	60	31	91
14	Child's World Center	6100 Lindley Av	School	80	Enrollment	358	34	30	64	31	34	65
15	Pierce College Master Plan EIR	6201 Winnetka Av	School	863	Enrollment	2460	206	42	248	113	97	210
16	Levi Family Partership	18719 Calvert St	Other	156	Beds	415	14	8	22	15	19	34
17	Medical Office	5411 Etiwanda Ave.	Office	93376	S.F. Gross Area	3037	153	40	193	78	213	291
18	McDonalds	18510 Victory Bl	Retail	3573	S.F. Gross Area	887	45	43	88	31	29	60
19	Restaurant	14708 Ventura Blvd.	Other	6880	S.F. Gross Area	975	33	22	55	48	42	90
20	Luther Burbank Savings	16600 Ventura Bl	Other	4100	S.F. Gross Area	460	4	4	8	49	48	97
21	Ralphs Off-Site Gas Station #189	17253 Saticoy St	Gas Station	10	Fueling Positions	843	32	30	62	34	35	69
22	Health Club	16830 Ventura Bl	Other	27263	S.F. Gross Area	-418	-23	12	-11	37	-1	36
23	Arden Panorama City	8750 N Van Nuys Bl	Office School	142105 100	S.F. Gross Area Enrollment	1196	263	58	321	16	186	202
24	Mixed-use Commercial	14450 Arminta St	Mixed Use	342276	S.F. Gross Area	2706	28	4	32	4	28	32
25	Panorama Place EIR	14665 Roscoe Bl	Condominiums	504	Total Units	18133	357	396	753	790	740	1530
26	Saticoy/Burnet Townhomes	15141 Saticoy St	Condominiums SFD	85 -10	Total Units Total Units	402	12	35	47	31	23	54
27	Restaurant Depot	16062 Chase St	Industrial	82640	S.F. Gross Area	963	117	99	216	64	40	104
28	Monroe Community Wellness Center	9119 Haskell av	Other	13230	S.F. Gross Area		24	6	30	12	34	46
29	Homeplace Village	4141 Whitsett Av	Apartments	200	Total Units	625	1	59	60	37	1	38
30	Los Angeles Valley College	5800 Fulton Av	School	2300	Enrollment	5700	441	97	538	212	120	332

	Project Name	Location	Land use	Size	Units	Daily Total	AM Peak			PM Peak		
							In	Out	Total	In	Out	Total
31	Camino Real Mixed Use Project	14121 Ventura Bl	Condominiums Retail Retail	88 6000 3500	Total Units S.F. Gross Area S.F. Gross Area	2008	57	66	123	61	46	107
32	CBS Radford Studios	4200 Radford Av	Studio	161885	S.F. Gross Area	1634	102	13	115	42	70	112
33	Il Villaggio Toscano Mixed-Use	4805 N Sepulveda Bl	Apartments Retail	465 55000	S.F. Gross Area S.F. Gross Area	5844	102	229	331	318	231	549
34	Tract 62077 Mixed-Use	15222 Ventura Bl	Condominiums Retail	52 7460	Total Units S.F. Gross Area	609	9	23	32	27	20	47
35	Dasher/Lawless Mixed Use	13103 Victory Bl	Apartments Office Retail Mixed Use Mixed Use	110 20000 60000 20000 20000	Total Units S.F. Gross Area S.F. Gross Area S.F. Gross Area S.F. Gross Area	6726	199	197	396	249	259	508
36	Westfield Fashion Square	14006 Riverside Dr	Retail	220000	S.F. Gross Area	n/a	58	37	95	229	247	476
37	Sherman Village	12629 Riverside Dr	Condominiums	270	Total Units	1620	-16	104	88	93	36	129
38	Plaza at the Glen	13007 Victory Bl	Mixed Use	151806	S.F. Gross Area	18763	887	257	1144	566	1146	1712
39	Sepulveda Square	5700 N Sepulveda Bl	Condominiums Retail	97 34775	Total Units S.F. Gross Area	1813	27	42	69	62	61	123
40	Mixed-Use	12548 Ventura Blvd.	Retail Other Apartments Retail	10747 1925 62 -3000	S.F. Gross Area S.F. Gross Area Total Units S.F. Gross Area	1000	23	41	64	46	34	80
41	CVS Pharmacy	5601 Van Nuys Bl	Retail	12830	S.F. Gross Area	679	11	9	20	40	40	80
42	Mixed-Use	11617 Ventura Bl	Apartments Retail Office	391 -12663 -7793	Total Units S.F. Gross Area S.F. Gross Area	2077	36	169	205	136	62	198
43	Condominium	11331 Ventura Bl	Condominiums Office	62 -21694	Total Units S.F. Gross Area	189	-24	25	1	22	-13	9
44	Valley Plaza and Laurel Plaza	6301 Laurel Canyon Bl	Condominiums Apartments Theatre Other Mixed Use	572 170 69962 707180 -779933	Total Units Total Units S.F. Gross Area S.F. Gross Area S.F. Gross Area	3456	-236	158	-78	82	-7	75
45	Condominiums (Cumulative Study)	11933 W Magnolia Bl	Condominiums	107	Total Units	981	24	65	89	55	47	102
46	Mixed-Use Project	12425 Victory Bl	Condominiums Retail Other	54 3850 4500	Total Units S.F. Gross Area S.F. Gross Area	460	3	21	24	28	16	44
47	No Ho Lankershim Station	5401 N Lankershim Bl	Office Retail Retail Mixed Use	17900 9500 29300 -10714	S.F. Gross Area S.F. Gross Area S.F. Gross Area S.F. Gross Area	1826	36	15	51	70	65	135
48	NoHo San Marino	11405 Chandler Bl	Apartments	73	Total Units	519	8	26	34	28	18	46
49	New NoHo Artwalk Project	11126 Chandler Bl	Condominiums Retail Office Retail	220 9400 -31500 -2500	Total Units S.F. Gross Area S.F. Gross Area S.F. Gross Area	903	-27	67	40	61	2	63
50	Walgreens Pharmacy	11000 Ventura Bl	Retail	12079	S.F. Gross Area	719	2	-4	-2	31	41	72
51	Cohen Apartments	10621 Riverside Dr	Apartments Retail	82 13327	Total Units S.F. Gross Area	1083	17	39	56	47	36	83
52	Carl's Jr.	6601 Lankershim Bl	Retail Other	4180 2723	S.F. Gross Area S.F. Gross Area	1535	71	68	139	53	50	103
53	NBC Universal Evolution Plan	555 E Universal Holllywood Dr	Office Studio Retail Studio	1286112 1239456 1513644 136759	S.F. Gross Area S.F. Gross Area S.F. Gross Area S.F. Gross Area	44883	2433	582	3015	1530	3184	4714
54	Residential Project (Apartments)	3716 N Barham Bl	Apartments	364	Total Units	1290	18	74	92	78	42	120