Initial Study and Negative Declaration

99th Street Wells Chloramination Station Project

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

December 2015

CEQA Initial Study

99th Street Wells Chloramination Station Project

December 2015

Manager of Environmental Planning and Assessment
Charles C. Holloway

Environmental Project Manager
Stephanie Eatinger

Prepared by
Los Angeles Department of Water and Power
111 North Hope Street
Los Angeles, CA 90012

Technical Assistance Provided by
AECOM
515 S. Flower Street, 8th Floor
Los Angeles, CA 90071

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Acronyms and Abbreviations

AQMP	Air Quality Management Plan
BMP	Best Management Practice
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CH_4	Methane
CNEL	Community Noise Equivalent Level
CO	Carbon monoxide
CO_2	Carbon dioxide
CO_2e	Carbon dioxide equivalent
CPVC	chlorinated polyvinyl chloride
CRHR	California Register of Historic Resources
CY	Cubic yards
dBA	A-weighted decibel
DDBPR	Disinfection and Disinfectants Byproducts Rule
GHG	Greenhouse gas emissions
HDPE	high-density polyethylene
LADWP	Los Angeles Department of Water and Power
LAFD	Los Angeles Fire Department
LAPD	Los Angeles Police Department
LAS	liquid ammonium sulfate
L_{eq}	Community noise equivalent level
LOS	Level of service
mph	miles per hour
N_2O	Nitrous oxide
NO_2	Nitrogen dioxide
NO_x	Nitrogen oxide
O_3	Ozone
PF	Public Facilities
$PM_{2.5}$	Particulate matter less than 2.5 microns in diameter
PM_{10}	Particulate matter 10 microns in diameter or less
SCAQMD	South Coast Air Quality Management District
SO_x	Sulfur oxide
SWPPP	Stormwater Pollution Prevention Plan
TAC	Toxic air contaminant
USFWS	U.S. Fish and Wildlife Service
V/C	Volume-to-capacity

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SECTION 1
PROJECT DESCRIPTION

1.1 Overview of the Project

The Los Angeles Department of Water and Power (LADWP) proposes to construct a chloramination station within the 99th Street Wells Pumping Station in the Watts community of the City of Los Angeles. The proposed project is part of LADWP's program to comply with the federal Stage 2 Disinfectants and Disinfection Byproducts Rule (DDBPR) through a system-wide conversion from chlorination to chloramination of the in-City potable water supply. The chloramination station would combine a liquid ammonium sulfate (LAS) solution with sodium hypochlorite to form chloramines to disinfect the groundwater supply distributed by the 99th Street Wells Pumping Station complex. The proposed project would include the installation of all necessary equipment and structures needed to facilitate on-site sodium hypochlorite generation, ammoniation, injection, and monitoring.

1.2 California Environmental Quality Act

The California Environmental Quality Act (CEQA) applies to proposed projects initiated by, funded by, or requiring discretionary approvals from state or local government agencies. The proposed chloramination station project constitutes a project as defined by CEQA (California Public Resources Code Section 21000 et seq.). The CEQA Guidelines Section 15367 states that a "Lead Agency" is "the public agency which has the principal responsibility for carrying out or approving a project." Therefore, LADWP is the lead agency responsible for compliance with CEQA for the proposed project.

As lead agency for the proposed project, LADWP must complete an environmental review to determine if implementation of the proposed project would result in significant adverse environmental impacts. To fulfill the purpose of CEQA, an Initial Study has been prepared to assist in making that determination. Based on the nature and scope of the proposed project and the evaluation contained in the Initial Study environmental checklist (contained herein), LADWP, as the lead agency, has concluded that impacts caused by the proposed project are less than significant. This analysis supports the Notice of Exemption filed with the City Clerk for the 99th Street Wells Chloramination Station on June 28, 2005.

1.3 Project Location and Setting

The proposed 99th Street Wells Chloramination Station Project would be located within the existing 99th Street Wells Pumping Station complex property, which is located at 9880 Wadsworth Avenue in the Watts community of the City of Los Angeles. It is located at the intersection of Wadsworth Avenue and 99th Street (see Figures 1 and 2). The project site is bound by Wadsworth Avenue to the west, the LADWP Power System property to the north, and the 99th Street Elementary School to the east and south. The project site is adjacent to residential single-family homes west of Wadsworth Avenue.

Currently, the approximately 24,800-square-foot 99th Street Wells Pumping Station complex consists of groundwater wells, a covered forebay, a pumping station, a chlorination station, a fluoridation station, a corrosion inhibitor building, an electrical industrial station, and

underground pipelines (see Figure 3). The property is designated Public Facilities and zoned PF-1.

1.4 Project Background

Local groundwater supplies have historically been an integral part of the water supply for the City of Los Angeles. LADWP is entitled to extract 15,000 acre-feet per year of groundwater from the Central Basin. With recent cutbacks in supply availability from the Los Angeles Aqueduct system and restrictions on pumping from other groundwater basins due to contamination, there has been renewed motivation to increase the pumping capacity and use of the Central Basin. Operational constraints at the 99th Street Wells Pumping Station complex have resulted in the forfeit of thousands of acre-feet of water entitlements. Years of drought and the rising cost of imported water have driven LADWP to rehabilitate facilities in the Central Basin to increase the inventory of locally viable sources of water.

Additionally, more stringent standards for disinfection byproducts such as total trihalomethanes and haloacetic acids were set under the federal Stage 2 DDBPR. The DDBPR requires compliance monitoring and requires the City of Los Angeles's entire distribution system to meet the maximum contaminant levels of 80 micrograms per liter of trihalomethanes and 60 micrograms per liter of haloacetic acids. Conversion to chloramine disinfection by the controlled feed of LAS with sodium hypochlorite into the water supply would ensure the reduction of trihalomethanes and other byproducts produced by traditional chlorine disinfection.

In addition to improved water quality, the City-wide conversion to chloramines would improve the reliability of the water supply by allowing the use of Metropolitan Water District of Southern California supplies without restrictions due to issues associated with disinfectant blending. The 99th Street Wells Chloramination Station Project is one of several water system improvements required for the City-wide conversion to chloramine disinfection.

1.5 Project Objectives

The objectives of the proposed project are to:

- Convert the existing City-wide groundwater disinfection system from free chlorine to chloramine because chloramine forms less disinfection byproducts and has no odor
- Comply with the trihalomethanes limits set by the federal Stage 2 DDBPR drinking water regulation
- Construct the necessary infrastructure to convey more potable water to customers in the South Los Angeles/Harbor portion of the City of Los Angeles
- Enhance LADWP operations by allowing chloraminated water from the Metropolitan Water District of Southern California to enter the water system at more locations

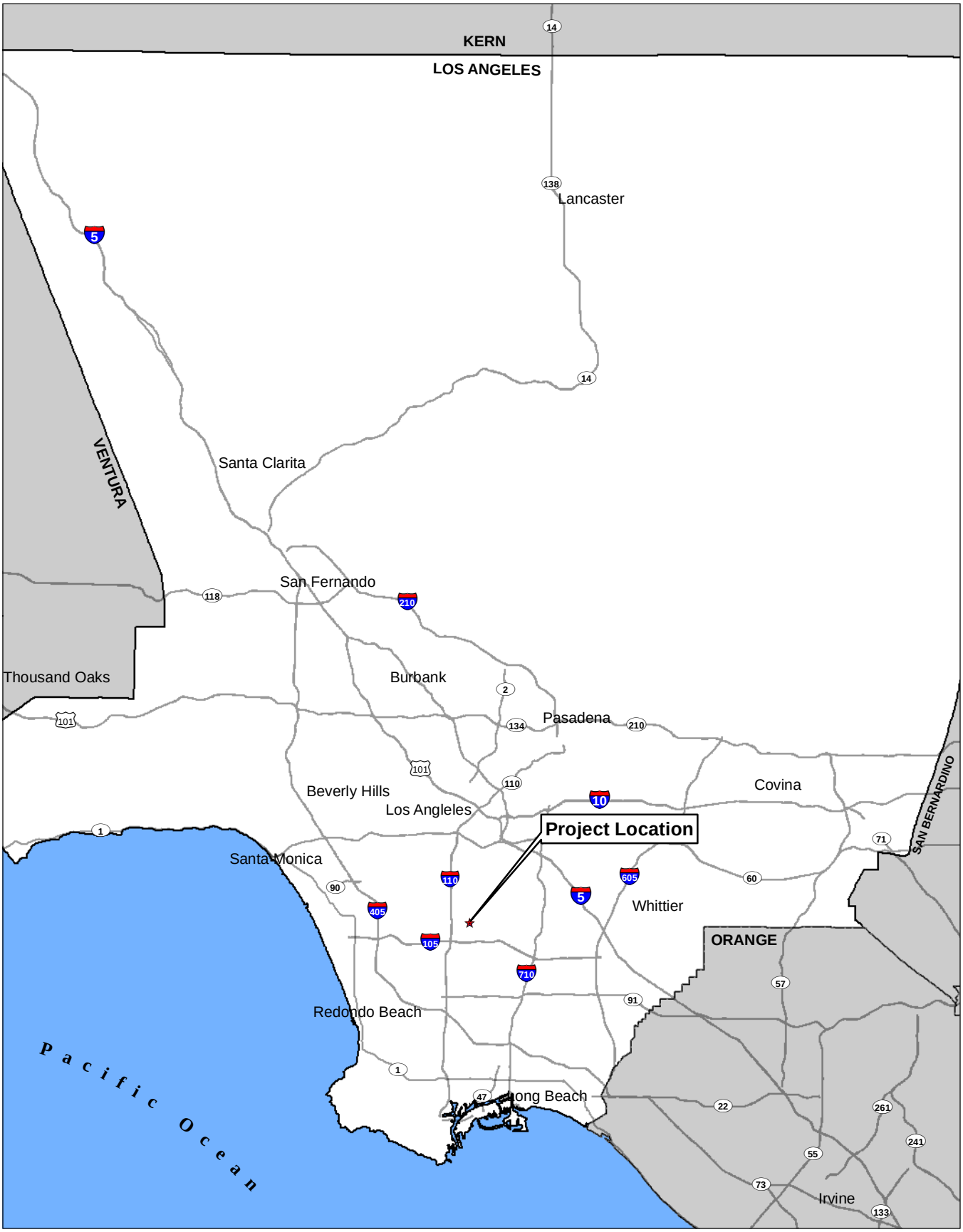

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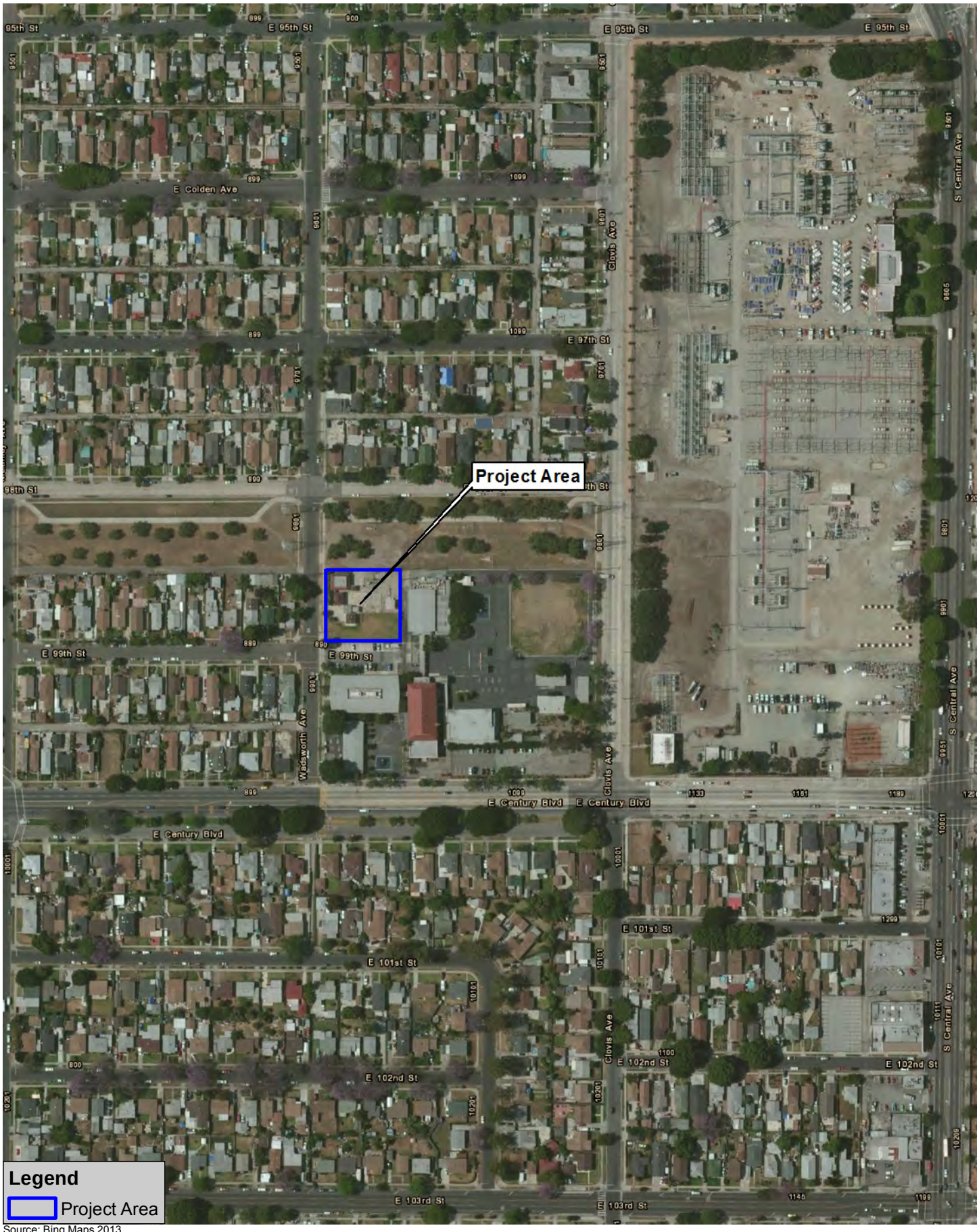
Figure 1
Regional Location Map



Source: Bing Maps 2013

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Figure 2

Project Vicnity Map

99th Street Wells Chloramination Station Project

Source: Bing Maps 2013

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Figure 3

99th Street Wells Pumping Station Complex – Existing Site Layout

1.6 Description of the Proposed Project

The new chloramination facility would be constructed within the LADWP-owned 99th Street Wells Pumping Station complex and would include all necessary equipment and structures needed for chloramine disinfection of the groundwater supply. The new station would include LAS equipment, an on-site sodium hypochlorite generation system, and chemical injection equipment. Two closed, non-pressurized 2,750 gallon cross-linked high-density polyethylene (HDPE) plastic tanks would store the LAS inside the chloramination building. The station would be constructed in an undeveloped, grassy area in the southeast corner of the project site (see Figure 4). The station would be a single-story structure of a similar style as the existing facilities. The piping would be located below ground and would not be visible following the completion of construction. Additional fencing would be installed to secure the new station.

The potable groundwater pumped through the 99th Street Wells Pumping Station would be disinfected by applying two treatment chemicals, 0.8 percent sodium hypochlorite and 40 percent LAS, to create chloramines. LAS is a stable, non-toxic, non-volatile, non-flammable, odorless chemical. The station would employ a food-grade type of 40 percent LAS, which has a National Sanitation Foundation 60 approval and is American Water Works Association-certified. The benefit of using LAS is that it has a low vapor pressure and in the event of a spill or leak, the ammonia would stay in solution and not off-gas or cause ammonia fumes or vapors to go into the air. It also means an ammonia safety scrubber is not needed inside the chloramination station in the event of a spill or leak to remove any ammonia fumes or vapors released inside the station. Because of its inherently safe qualities, LAS is not subject to regulation under the California Accidental Release Prevention program.

The station's LAS supply would be trucked in, but the station's sodium hypochlorite supply would be generated on-site from salt using a process called on-site sodium hypochlorite generation. On-site generation would eliminate the need for external, weekly deliveries and bulk storage of 12.5 percent sodium hypochlorite. Due to the elimination of bulk deliveries of sodium hypochlorite and the reduced sodium hypochlorite concentration of 0.8 percent, the new station would provide for greater safety. During the on-site generation of 0.8 percent sodium hypochlorite, the hydrogen gas byproduct would be continuously diluted with fresh air by forced air ventilation blowers and vented outside at a concentration of less than 1.5 parts per million. The trucked in LAS and the generated sodium hypochlorite would be stored in a storage tanks and injected into the well collector line as needed. The LAS and sodium hypochlorite systems would be housed in separate rooms of the station and kept isolated from each other. The sodium hypochlorite would be stored in a closed, non-pressurized, 9,100 gallon HDPE plastic tank equipped with automatic tank level monitoring with low and high level alarms and shut-off, an overflow pipe, and a spill containment area. LAS would be stored in two closed, non-pressurized, 2,750 gallon cross-linked HDPE plastic tanks equipped with automatic tank level monitoring with low and high level alarms and shut-off, an overflow pipe, and a spill containment area. The total LAS storage capacity would be approximately 5,500 gallons. LAS and sodium hypochlorite would be injected into the water supply via two separate peristaltic metering pumps, chlorinated polyvinyl chloride (CPVC) plastic piping, and diffuser injection systems. Together, LAS and sodium hypochlorite would produce the needed chloramine residual to meet federally-mandated water quality standards in the service area.

The chloraminated groundwater supply would then be pumped by the 99th Street Wells Pumping Station into the 386-foot service zone system. The groundwater pumping rate would range from 1.0 to 10.9 cubic feet per second. At a maximum flow rate of 10.9 cubic feet per second, the maximum sodium hypochlorite usage would be approximately 3.3 gallons per minute (4,740 gallons per day), and LAS usage would be 53 gallons per day. LAS from the residual chemical analyzer and water softening system would be collected and discharged to the existing public sewer on Wadsworth Avenue.

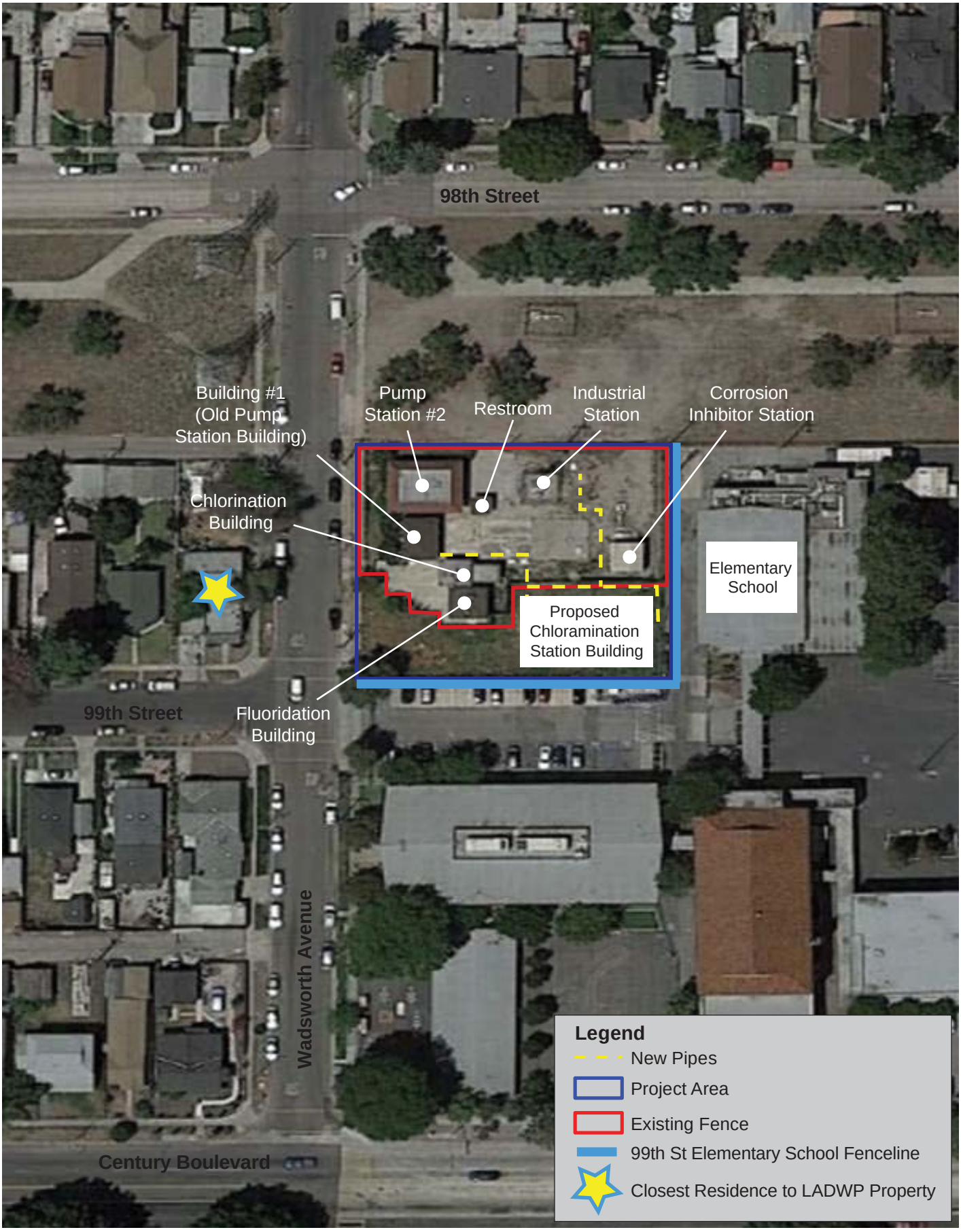
As previously discussed, the sodium hypochlorite required for this facility would be generated on-site using salt and water. As such the only chemical deliveries during project operation would be approximately 4 deliveries a year of LAS in an LAS tanker. A total of 90 tons of salt requiring approximately 9 deliveries a year would be delivered to the project site. A maximum of twenty tons of salt would be stored on site. The LAS will be delivered by the vendor. LAS would be stored in the two 2,750 gallon cross-linked HDPE plastic tanks during project operation. The above ground LAS piping would be CPVC and the buried ammonia piping would be double-contained. Both the LAS and salt would be delivered during normal weekday work hours. Currently, 12.5 percent sodium hypochlorite solution is delivered to the project site every week. These deliveries would cease.

In the event of a LAS leak or spill occurring outside during filling of the LAS tank, LAS would be diverted into the containment area inside the building. Prior to filling, operators are to ensure that valves at the catch basin are positioned so that potential leaks would flow into the containment area inside the building.

In the event of a hydrogen gas leak, the sodium hypochlorite generation unit would turn off and the room ventilation fan would remain on. A second back-up emergency fan would also turn on to quickly vent the hydrogen gas outside. Additionally, upon detection of hydrogen gas, sensors would transmit both a local alarm and a remote alarm signal to a continuously-manned station.

In addition, the following general safety measures would be implemented for the proposed project:

- Intrusion alarms triggered by the building doors would be transmitted to a continuously-manned station.
- Security video cameras would be installed inside each room of the building and around the exterior of the building. Camera recordings would be transmitted to a continuously-manned station.
- All electrical safety systems would be equipped with back-up power via an emergency generator or battery.
- LADWP operators would be on stand-by 24 hours a day, 7 days a week, and would respond promptly to any alarm or emergency conditions.



Source: Google Earth 2015

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Figure 4

99th Street Wells Chloramination Station – Proposed Site Plan

1.7 Construction Schedule and Procedures

Construction of the proposed project is anticipated to begin in spring 2016 and take approximately 2 years to complete, concluding in spring/summer 2018. The proposed 99th Street Wells Chloramination Station is expected to be operational by summer 2018.

To accomplish all the elements of the proposed project, the delivery of construction equipment, materials, and supplies to the 99th Street Wells Pumping Station complex would be required. Vehicles required for the project construction would include backhoes, grader, compactor, concrete truck, drill rig, excavators, crane, front end loader, forklifts, and water trucks. Recurrent deliveries would include material and components required for the chloramination station construction, pipe segments for new water line connections, and concrete for various elements of the project. Excavation at the project site would also create truck trips for transferring the excavation material and removing the debris from the project site for off-site disposal. The chloramination station construction would create up to approximately 1,700 cubic yards (CY) of excavated material and approximately 130 CY of debris. Additionally, approximately 300 CY of concrete would be delivered to the project site. Overall, approximately 200 total off-site truck trips may be required.

The construction phasing for the proposed project is detailed below in Table 1-1, Construction Phasing Assumptions.

Table 1-1 Construction Phasing Assumptions

	Phase 1: Site Preparation	**Phase 2: Construction of Chloramination Station and Installation of Piping**
Length of construction	6 weeks	30 months
# of Construction Equipment and Type	2 (excludes dump trucks and flatbed trailers) back hoe, loader and water truck	3 concrete pump, cement truck, crane, compactor, dump truck, soldier piles, ABI machine (soldier pile installer), drill rig, excavator, water truck, forklifts
# of Equipment & Deliveries Traveling To & From Project Site Per Day (Typical & Peak)*	Typical: 1 Peak: 2 (includes flatbed trailers, water trucks)	Typical: 2 Peak: 8 (ready-mix trucks)
Amount of Construction Debris Generated	50 CY	1,700 CY of soil, 80 CY of debris
# of Dump/Haul Truck Trips Per Day	1	25
# of Construction Workers (Typical & Peak)*	Typical: 4 Peak: 5	Typical: 8 Peak: 20

* Peak construction activities would occur over a three-day period during the concrete pouring for the building.

Generally, in accordance with the Noise Ordinance, construction activity would occur Mondays through Fridays from 7:00 a.m. to approximately 9:00 p.m. The sidewalk directly west of and adjacent to the project site would be temporarily closed for the duration of construction. Parking along this section would also be temporarily restricted for the duration of construction activities. A flag person would direct pedestrian and vehicular traffic

whenever equipment goes in and out of the project site. The City of Los Angeles requires a construction worksite traffic control plan and safety program, consistent with federal and state requirements.

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 (BMPs):

- 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 will be applied to exposed surfaces at least two times per day to prevent generation of dust plumes.
    2) The construction contractor will 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 will be covered (e.g., with tarps or other enclosures that would reduce fugitive dust emissions).
    4) Construction activity on exposed or unpaved dirt surfaces will be suspended when wind speed exceeds 25 miles per hour (mph).
    5) Ground cover in disturbed areas will 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.
    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.

- The proposed project would implement following air quality BMPs to further reduce emissions experienced by the adjacent elementary school during construction:

    1) LADWP would use equipment and vehicle engines which are maintained in good condition and in proper tune per manufacturers' specifications.
    2) LADWP would require the construction contractor to use electricity from power poles rather than temporary gasoline or diesel power generators, as feasible.

3) LADWP would prohibit heavy-duty trucks from idling in excess of five minutes, both on- and off-site, as feasible.
4) LADWP would require construction parking to be configured such that it minimizes traffic interference.
5) LADWP would coordinate with administrators at the 99th Elementary School to minimize student exposure to air pollution during periods of heavy construction activity (e.g., excavation).

- The proposed project would implement the following Noise BMPs to control noise levels:

1) All construction equipment would be properly maintained and equipped with mufflers and other suitable noise attenuation devices.
2) The construction contractor would use rubber-tired equipment rather than track equipment. Noisy equipment would be used only when necessary and will be switched off when not in use.
3) The construction contractor would ensure that all stockpiling and vehicle staging areas are located as far away from noise-sensitive receivers as possible.
4) LADWP would establish a public liaison for project construction that would be responsible for addressing public concerns about construction activities, including excessive noise. The liaison would determine the cause of the concern (e.g., starting too early, bad muffler, etc.) and would work with LADWP to implement reasonable measures to address the concern.
5) The construction contractor would develop a construction schedule to ensure that the construction would be completed quickly to minimize the time a sensitive receptor would be exposed to construction noise.
6) Construction supervisors would be informed of project-specific noise requirements, noise issues for sensitive land uses adjacent to the project site, and/or equipment operations.
7) The construction contractor would install a 12-foot high temporary barrier along the northern, eastern, and southern property lines. The acoustical barrier would be constructed of material having a minimum surface weight of two pounds per square foot or greater, and a demonstrated Sound Transmission Class rating of 25 or greater as defined by American Society for Testing and Materials Test Method E90. The barrier would be required for the entirety of construction with the exception of approximately the last two months, as access to the site on these sides would be required for installation of driveway, curb and gutter, and the perimeter wall. The west side of the property will remain as is, and will not have sound walls as there needs to be access, and the amount of sound walls we would be able to put up would have negligible effects, and therefore would not be financially feasible.
8) Prior to construction work, the public would be notified of the location and dates of construction. Residents would be kept informed of any changes to the schedule.
9) LADWP would coordinate with the designated contact for the 99th Elementary School. Coordination between the school contact and LADWP would continue on an as-needed basis while construction is occurring adjacent to these land uses to minimize potential disruption to the land uses.

- The proposed project would comply with the Regional Water Quality Control Board's National Pollution Discharge Elimination System Phase II Rule.

- Residences and businesses near the pipeline alignment would be notified prior to the start of construction (e.g., via flyers) of lane closures and parking restrictions in their vicinity. The notices would 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.

1.8 Required Permits and Approvals

Numerous approvals and/or permits would be required to implement the proposed project. The environmental documentation for the project would be used to facilitate compliance with federal and state laws and the granting of permits by various state and local agencies having jurisdiction over one or more aspects of the project. These approvals and permits may include, but may not be limited, to the following:

City of Los Angeles Department of Water and Power

- Certification by the City of Los Angeles Board of Water and Power Commissioners that the environmental document was prepared in accordance with CEQA and other applicable codes and guidelines
- Approval by the City of Los Angeles Board of Water and Power Commissioners of the proposed project

City of Los Angeles Department of Public Works, Bureau of Engineering

- Industrial Waste Discharge Permit (discharge permit for construction dewatering and hydrostatic test water discharge in storm drains)
- Sewer Connection Permit
- A Permit for sewer and water connections, sidewalk repairs

California Department of Public Health

- Amended Water System Permit

State of California, Los Angeles Regional Water Quality Control Board

- National Pollution Discharge Elimination System Permit for construction dewatering and hydrostatic test water discharge

Los Angeles Fire Department

- Risk Management Plan

SECTION 2
INITIAL STUDY CHECKLIST

The following discussion of potential environmental effects was completed in accordance with Section 15063(d)(3) of the CEQA Guidelines to determine if the proposed project may have a significant effect on the environment.

CEQA INITIAL STUDY FORM

Project Title:
99th Street Wells Chloramination Station Project

Lead Agency Name and Address:
Los Angeles Department of Water and Power
Environmental Planning and Assessment
111 North Hope Street, Room 1044
Los Angeles, CA 90012

Contact Person and Phone Number:
Stephanie Eatinger
Environmental Affairs
Los Angeles Department of Water and Power
(213) 367-0968

Project Sponsor's Name and Address:
Los Angeles Department of Water and Power
Water Engineering and Technical Services
111 North Hope Street
Los Angeles, CA 90012

Project Location:
The project area is located in the Watts community of South Los Angeles.

City Council District:
Districts 2 and 8

Neighborhood Council District:
Empowerment Congress Southeast Area Neighborhood Development Council

General Plan Designation:
The proposed project would be contained entirely within the existing 99th Street Wells Pumping Station complex property, located at 9880 Wadsworth Avenue in the City of Los Angeles. The property is designated Public Facilities. The project site is adjacent to residential single family homes on Wadsworth Avenue to the west, a utility right-of-way to the north, and 99th Street Elementary School to the east and south. The properties adjacent to the proposed project include the following designations: Very Low Residential and Public Facilities.

Zoning:
The proposed project site is zoned PF-1 (Public Facilities). The properties surrounding the proposed project are zoned PF-1 and R1-1 (One Family Residential).

Description of Project:
The proposed project would construct a new chloramination facility within the LADWP-owned 99th Street Wells Pumping Station complex and would include all necessary equipment and structures needed to facilitate on-site sodium hypochlorite generation, ammoniation, injection, and monitoring, including two 2,750 gallon LAS storage tanks. The new appurtenances would enable chloramination of groundwater pumped by the 99th Street Wells Pumping Station. The proposed project would include construction of the chloramination station and associated piping in an undeveloped, grassy area in the southeast corner of the project site. The chloramination station would be a single-story structure. The piping would be located below ground and would not be visible following the completion of construction. Additional fencing would also be installed to secure the new chloramination station.

The potable groundwater pumped through the 99th Street Wells Pumping Station would be disinfected by applying two treatment chemicals, 0.8 percent sodium hypochlorite and LAS, to create chloramines. LAS would be trucked in, but the sodium hypochlorite would be generated on site from salt using a process called on-site sodium hypochlorite generation. This would eliminate the need for delivery, storage, and use of bulk 12.5 percent sodium hypochlorite. On-site generation of a low-strength sodium hypochlorite is produced through the electrolysis of brine, a solution of water and salt. The sodium hypochlorite generated through the electrolytic process would be injected into the well collector line coming into the existing forebay. This would serve as primary disinfection. LAS with additional sodium hypochlorite would be injected further downstream to produce the chloramine residual.

Construction of the proposed project is anticipated to begin in spring 2016 and take approximately 2 years to complete, concluding in spring/summer 2018. The proposed 99th Street Wells Chloramination Station is expected to be operational by summer 2018.

Surrounding Land Uses and Setting:
The proposed project would be located entirely within the existing 99th Street Wells Pumping Station complex property located at 9880 Wadsworth Avenue, Los Angeles. The proposed project area would generally be bound by Wadsworth Avenue to the west, Century Boulevard to the south, Clovis Street to the east, and East 98th Street to the north. The proposed project is located within the community of Watts. The proposed project abuts public facilities (elementary school) and residential (single family homes) uses.

Reviewing Agencies:
- City of Los Angeles Department of Public Works, Bureau of Engineering
- California Department of Public Health
- State of California, Los Angeles Regional Water Quality Control Board
- Los Angeles Fire Department

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the Environmental Impacts discussion in Section 3.

☐ Aesthetics	☐ Agriculture Resources	☐ Air Quality
☐ Biological Resources	☐ Cultural Resources	☐ Geology/Soils
☐ Hazards & Hazardous Materials	☐ Hydrology/Water Quality	☐ Land Use Planning
☐ Mineral Resources	☐ Noise	☐ Population/Housing
☐ Public Services	☐ Recreation	☐ Transportation/Traffic
☐ Utilities/Service Systems	☐ Mandatory Findings of Significance	

DETERMINATION

On the basis of this initial evaluation:

☒ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☐ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an environmental impact report is required.

☐ I find that the proposed project may have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

_____ _____

Signature Date

Charles C. Holloway
Manager of Environmental Assessment and Planning
Los Angeles Department of Water and Power

		Potentially Significant Impact	Less Than Significant Impact After Mitigation Incorporated	Less Than Significant Impact	No Impact
I.	**AESTHETICS**. Would the project:				
a.	Have a substantial adverse effect on a scenic vista?				**X**
b.	Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?				**X**
c.	Substantially degrade the existing visual character or quality of the site and its surroundings?			**X**	
d.	Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?			**X**	
II.	**AGRICULTURE AND FORESTRY RESOURCES**. In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:				
a.	Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?				**X**
b.	Conflict with existing zoning for agricultural use, or a Williamson act contract?				**X**
c.	Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?				**X**
d.	Result in the loss of forest land or conversion of forest land to non-forest use?				**X**
e.	Involve other changes in the existing environment that, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?				**X**

		Potentially Significant Impact	Less Than Significant Impact After Mitigation Incorporated	Less Than Significant Impact	No Impact
III.	**AIR QUALITY**. Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a.	Conflict with or obstruct implementation of the applicable air quality plan?			**X**	
b.	Violate any air quality standard or contribute substantially to an existing or projected air quality violation?			**X**	
c.	Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?			**X**	
d.	Expose sensitive receptors to substantial pollutant concentrations?			**X**	
e.	Create objectionable odors affecting a substantial number of people?			**X**	
IV.	**BIOLOGICAL RESOURCES**. Would the project:				
a.	Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?				**X**
b.	Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?				**X**
c.	Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?				**X**
d.	Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?				**X**
e.	Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?				**X**
f.	Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?				**X**

		Potentially Significant Impact	Less Than Significant Impact After Mitigation Incorporated	Less Than Significant Impact	No Impact
V.	**CULTURAL RESOURCES**. Would the project:				
a.	Cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5?			**X**	
b.	Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5?			**X**	
c.	Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?			**X**	
d.	Disturb any human remains, including those interred outside of formal cemeteries?			**X**	
VI.	**GEOLOGY AND SOILS**. Would the project:				
a.	Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
	i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.			**X**	
	ii) Strong seismic ground shaking?			**X**	
	iii) Seismic-related ground failure, including liquefaction?			**X**	
	iv) Landslides?				**X**
b.	Result in substantial soil erosion, loss of topsoil, or changes in topography or unstable soil conditions from excavation, grading, or fill?			**X**	
c.	Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on-or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?			**X**	
d.	Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?			**X**	
e.	Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?				**X**
VII.	**GREENHOUSE GAS EMISSIONS**: Would the project:				
a.	Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impacts on the environment?			**X**	
b.	Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?				**X**

		Potentially Significant Impact	Less Than Significant Impact After Mitigation Incorporated	Less Than Significant Impact	No Impact
VIII.	**HAZARDS AND HAZARDOUS MATERIALS**: Would the project:				
a.	Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?			**X**	
b.	Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?			**X**	
c.	Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?			**X**	
d.	Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?			**X**	
e.	For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?				**X**
f.	For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?				**X**
g.	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?			**X**	
h.	Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?			**X**	
IX.	**HYDROLOGY AND WATER QUALITY**. Would the project:				
a.	Violate any water quality standards or waste discharge requirements?			**X**	
b.	Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?			**X**	
c.	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of stream or river, in a manner that would result in substantial erosion or siltation on- or off-site?			**X**	

		Potentially Significant Impact	Less Than Significant Impact After Mitigation Incorporated	Less Than Significant Impact	No Impact
d.	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site?			X	
e.	Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?			X	
f.	Otherwise substantially degrade water quality?			X	
g.	Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?				X
h.	Place within a 100-year flood hazard area structures that would impede or redirect flood flows?				X
i.	Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?			X	
j.	Inundation by seiche, tsunami, or mudflow?				X
X.	**LAND USE AND PLANNING**. Would the project:				
a.	Physically divide an established community?				X
b.	Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?				X
c.	Conflict with any applicable habitat conservation plan or natural community conservation plan?				X
XI.	**MINERAL RESOURCES**. Would the project:				
a.	Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?				X
b.	Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?				X
XII.	**NOISE**. Would the project result in:				
a.	Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?			X	
b.	Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?			X	
c.	A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?				X

		Potentially Significant Impact	Less Than Significant Impact After Mitigation Incorporated	Less Than Significant Impact	No Impact
d.	A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?			X	
e.	For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?				X
f.	For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?				X
XIII.	**POPULATION AND HOUSING**. Would the project:				
a.	Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?				X
b.	Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?				X
c.	Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?				X
XIV.	**PUBLIC SERVICES**.				
a.	Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
	i) Fire protection?				X
	ii) Police protection?				X
	iii) Schools?				X
	iv) Parks?				X
	v) Other public facilities?				X
XV.	**RECREATION**.				
a.	Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?				X
b.	Does the project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?				X

	Potentially Significant Impact	Less Than Significant Impact After Mitigation Incorporated	Less Than Significant Impact	No Impact
XVI. TRANSPORTATION/TRAFFIC. Would the 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?			X	
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?				X
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?				X
d. Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?				X
e. Result in inadequate emergency access?				X
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?			X	
XVII. UTILITIES AND SERVICE SYSTEMS. Would the project:				
a. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?			X	
b. Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?			X	
c. Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?			X	
d. Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?				X
e. Result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?				X
f. Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?			X	

	Potentially Significant Impact	Less Than Significant Impact After Mitigation Incorporated	Less Than Significant Impact	No Impact
g. Comply with federal, state, and local statutes and regulations related to solid waste?			X	
XVIII. MANDATORY FINDINGS OF SIGNIFICANCE.				
a. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?			X	
b. Does the project have impacts that are individually limited, but cumulatively considerable? "Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.			X	
c. Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?			X	

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SECTION 3
ENVIRONMENTAL IMPACT ASSESSMENT

INTRODUCTION

The following discussion addresses impacts to various environmental resources per the Initial Study checklist questions contained in Appendix G of the CEQA Guidelines.

I. AESTHETICS

Would the project:

a) Have a substantial adverse effect on a scenic vista?

No Impact. The proposed project would not have an adverse effect on a scenic vista. Scenic views or vistas are panoramic public views of various natural features, including the ocean, striking or unusual natural terrain, or unique urban or historic features. Public access to these views may be from park lands, private and publicly owned sites, and public right-of-way.[1] The project site is located entirely within the existing 99th Street Wells Pump Station complex in an urbanized and fully developed area within South Los Angeles. The views from vantage points adjacent to the project site would remain similar to existing conditions. Additionally, the Southeast Los Angeles Community Plan does not identify any official scenic vistas within or adjacent to the project area.[2] No impact to a scenic vista would occur.

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

No Impact. Implementation of the proposed project would not damage scenic resources within a state scenic highway. No designated California Scenic Highways are located near the project site.[3] Additionally, no Designated Scenic Highways in the Transportation Element of the City of Los Angeles General Plan are located near the project site.[4] Therefore, no impact would occur.

c) Substantially degrade the existing visual character or quality of the site and its surroundings?

Less Than Significant Impact. The proposed project involves the construction of a chloramination station within the existing 99th Street Wells Pumping Station complex. The southern section of the project property is currently unfenced and contains grasses and weedy vegetation. The proposed chloramination station building would be constructed on the southeastern portion of this unfenced area.

1 City of Los Angeles Department of City Planning, *City of Los Angeles General Plan, Conservation Element*, adopted September 26, 2001.

2 City of Los Angeles Department of City Planning, *Southeast Los Angeles Community Plan*, adopted March 22, 2000.

3 State of California Department of Transportation. *State Scenic Highway Program*. Website: http://www.dot.ca.gov/hq/LandArch/scenic_highways, accessed August 22, 2013.

4 City of Los Angeles Department of City Planning, *City of Los Angeles General Plan, Transportation Element*, adopted September 8, 1999.

As a result, the entire project property would be fenced off from the public. However, there would be no substantial change to the visual character or quality of the project site and its surroundings. It would remain a pumping station and continue to appear as a water system facility. The impact to visual character would be less than significant.

d) Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?

Less Than Significant Impact. Implementation of the proposed project would not create a new source of substantial light or glare that would adversely affect day or nighttime views. The proposed project would be constructed during daylight hours at the 99th Street Wells Pumping Station complex. No nighttime lighting would be used during construction. Security lighting for the new building would be designed in conformance with all applicable codes and standards, requiring that lighting be focused and downward such that light spillover on adjacent properties would not occur. Further, the proposed new building materials would not be metallic or consist of a shiny material. Therefore, new sources of lighting and glare would not significantly affect the day or nighttime views in the area, and the impact would be less than significant impact.

II. AGRICULTURE AND FORESTRY RESOURCES

Would the project:

a) Convert Prime Farmland, Unique Farmland or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

No Impact. The project site is located in a fully urbanized portion of South Los Angeles and would be contained entirely within the existing 99th Street Wells Pumping Station complex. The proposed project site is designated as Urban and Built-Up Land on the "Important Farmland in California" map prepared by the California Resources Agency pursuant to the Farmland Mapping and Monitoring Program.[5] Thus, no part of the proposed chloramination facilities would be located on or near Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. Therefore, the proposed project would not convert farmland to a non-agricultural use, and no impact to farmland would occur.

b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?

No Impact. As discussed in Section II(a) above, the proposed project would be located entirely within the existing 99th Street Wells Pumping Station complex in a fully urbanized portion of South Los Angeles. Furthermore, the County of Los

[5] State of California Department of Conservation, Division of Land Resource Protection, Farmland Mapping & Monitoring Program, *Important Farmland in California, 2008* map. Website: ftp://ftp.consrv.ca.gov/pub/dlrp/FMMP/pdf/statewide/2008/fmmp2008_08_11.pdf, accessed August 22, 2013.

Angeles does not offer Williamson Act contracts.[6] Therefore, the proposed project would not conflict with existing zoning or a Williamson Act contract. No impact would occur.

c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?

No Impact. The proposed project would be located entirely within the existing 99th Street Wells Pumping Station complex in a fully urbanized portion of South Los Angeles. No portion of the project site is zoned for or developed as forest land or timberland as defined in Public Resources Code Section 12220(g) and Government Code Section 4526, respectively.[7] Therefore, the proposed project would not conflict with existing zoning for or cause a rezoning of forest or timberland. No impact would occur.

d) Result in the loss of forest land or conversion of forest land to non-forest use?

No Impact. The proposed project would be located entirely within the existing 99th Street Wells Pumping Station complex in a fully urbanized portion of South Los Angeles. No portion of the project site is zoned or developed for a forest land use, and the proposed chloramination station would not be located within or adjacent to forest lands.[8] Therefore, the proposed project would not result in the loss of forest land or conversion of forest land to non-forest use. No impact would occur.

e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?

No Impact. The proposed project involves the existing 99th Street Wells Pumping Station complex in a fully urbanized portion of South Los Angeles. The project site and adjacent properties are designated as "Urban and Built-Up Land;" no portion of the project site or surrounding area is identified as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance.[9] Additionally, no forest lands exist on or adjacent to the project area. Therefore, the proposed project would not change the existing environment in a way that would result in the conversion of Farmland to non-agricultural use or forest land to non-forest use. No impact would occur.

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6 State of California Department of Conservation, Division of Land Resource Protection, *Williamson Act Program – Basic Contract Provisions*. Website: http://www.conservation.ca.gov/dlrp/lca/basic_contract_provisions, accessed August 22, 2013.

7 City of Los Angeles Zoning Information and Map Access System (ZIMAS). Website: http://zimas.lacity.org/, accessed August 22, 2013.

8 Ibid.

9 State of California Department of Conservation, Division of Land Resource Protection, Farmland Mapping & Monitoring Program. *Important Farmland in California. 2008*. Website: ftp://ftp.consrv.ca.gov/pub/dlrp/FMMP/pdf/statewide/2008/fmmp2008_08_11.pdf, accessed August 22, 2013.

III. AIR QUALITY

Would the project:

a) Conflict with or obstruct implementation of the applicable air quality plan (e.g., the SCAQMD Plan or Congestion Management Plan)?

Less Than Significant Impact. The Air Quality Management Plan (AQMP) is the South Coast Air Quality Management District (SCAQMD) plan for improving regional air quality in the South Coast Air Basin. The 6,745-square-mile South Coast Air Basin includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties. It 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. Ambient pollution concentrations recorded in Los Angeles County portion of the South Coast Air Basin are among the highest in the four counties comprising the South Coast Air Basin. The United States Environmental Protection Agency has classified the South Coast Air Basin as nonattainment areas for ozone (O_3), particulate matter ($PM_{2.5}$ and PM_{10}), and lead. This classification denotes that the South Coast Air Basin does not meet the National Ambient Air Quality Standards for these pollutants. In addition, under the California Clean Air Act, the Los Angeles County portion of the South Coast Air Basin is designated as a nonattainment area for O_3, $PM_{2.5}$, PM_{10}, and lead.

According to the SCAQMD, there are two key indicators of consistency with the AQMP: 1) whether the project would not result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations, or delay timely attainment of air quality standards or the interim emission reductions specified in the AQMP; and 2) whether the project would not exceed the assumptions in the AQMP based on the year of project build out. The first consistency criterion refers to violations of the California Ambient Air Quality Standards. The proposed project would not involve any additional site staff or maintenance activities beyond existing operating conditions. Chemical deliveries would be reduced from existing activity. Operational activity would not generate regional emissions that could interfere with attainment or maintenance of ambient air quality standards. In addition, the proposed project would comply with state and local strategies designed to control air pollution. Therefore, the proposed project would comply with Consistency Criterion No. 1.

The second consistency criterion requires that the proposed project not exceed the assumptions in the AQMP. A project is consistent with the AQMP if it is consistent with the population, housing, and employment assumptions that were used in the development of the AQMP. The proposed project does not include a residential component, and therefore, would not increase population or housing in the area. In addition, the proposed project would not increase employment upon completion of construction. The proposed project is considered to be consistent with growth assumptions included in the AQMP, and it would comply with Consistency Criterion No. 2.

Therefore, the proposed project would not conflict with or obstruct implementation of the applicable air quality management plan. The impact would be less than significant.

b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?

Less Than Significant Impact. The SCAQMD has developed construction and operational thresholds of significance to ascertain if projects comply with air quality regulations. Construction of the proposed project would contribute air quality emissions through the use of heavy-duty construction equipment, truck delivery and haul trips, and vehicle trips generated by construction workers traveling to and from the project site. Fugitive dust emissions would primarily result from excavation and grading activities. Nitrogen oxide (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.

It is mandatory for all construction projects in the South Coast Air Basin to comply with SCAQMD Rule 403 for Fugitive Dust. As discussed in Section 1.7 of the Project Description, 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 in accordance with SCAQMD guidance.

The construction schedule and procedures are presented in Section 1.7 of the Project Description. These include a detailed list of assumptions (e.g., equipment mix and truck trips) used to estimate air emissions. Additionally, implementation of the following BMPs were considered as part of the analysis to further reduce emissions experienced by the adjacent elementary school during construction.

1) LADWP would use equipment and vehicle engines which are maintained in good condition and in proper tune per manufacturers' specifications.

2) LADWP would require the construction contractor to use electricity from power poles rather than temporary gasoline or diesel power generators, as feasible.

3) LADWP would prohibit heavy-duty trucks from idling in excess of five minutes, both on- and off-site, as feasible.

4) LADWP would require construction parking to be configured such that it minimizes traffic interference.

5) LADWP would coordinate with administrators at the 99th Elementary School to minimize student exposure to air pollution during periods of heavy construction activity (e.g., excavation).

Table 3-1 shows the maximum daily emissions associated with construction. Construction emissions would not exceed the SCAQMD regional significance thresholds. Therefore, the impact related to regional construction emissions would be less than significant.

Regarding operational emissions, the proposed project would not involve any additional site staff or maintenance activities beyond existing operating conditions. Chemical deliveries would be reduced from the existing delivery of 12.5 percent sodium hypochlorite every week to the delivery of LAS 4 times a year. Therefore, no impact to regional operational emissions would occur.

Table 3-1 Regional Construction Emissions

Construction Phase	Emission Source	ROG	CO	NOx	SOx	PM_{10}	$PM_{2.5}$
Phase 1: Site Preparation	Construction Equipment	2	8	10	<1	1	1
	Fugitive Dust	--	--	--	--	<1	<1
	Worker Commute	<1	<1	<1	0	<1	<1
	Delivery Trucks	<1	<1	1	0	<1	<1
	Haul Trucks	<1	<1	1	0	<1	<1
	Subtotal Emission	*2*	*8*	*12*	*<1*	*1*	*1*
Phase 2: Construction	Construction Equipment	4	17	30	<1	1	1
	Fugitive Dust	--	--	--	--	<1	<1
	Worker Commute	<1	<1	1	0	<1	<1
	Delivery Trucks	<1	<1	2	0	<1	<1
	Haul Trucks	1	3	19	0	<1	<1
	Subtotal Emission	*5*	*21*	*52*	*<1*	*2*	*2*
Maximum Regional Total		5	21	52	<1	2	2
Regional Significance Threshold		75	550	100	150	150	55
Exceed Threshold?		**No**	**No**	**No**	**No**	**No**	**No**

SOURCE: Terry A. Hayes Associates, 2013.

c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

Less Than Significant Impact. The proposed project would not result in a cumulatively considerable net increase of a criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard. The proposed project and the whole of the Los Angeles metropolitan area are located within the South Coast Air Basin, which is characterized by relatively poor air quality. The South Coast Air Basin is currently classified as a federal and state non-attainment area for O_3, PM_{10}, $PM_{2.5}$, and lead and a federal attainment/maintenance area for carbon monoxide (CO). It is classified as a state attainment area for CO, and it currently meets the federal and state standards for nitrogen dioxide, sulfur oxide (SOx), and lead.

Because the South Coast Air Basin is designated as a state and/or federal nonattainment air basin for O_3, PM_{10} and $PM_{2.5}$, and nitrogen dioxide (NO_2), there is an ongoing regional cumulative impact associated with these pollutants. An individual project can emit these pollutants without significantly contributing to this cumulative impact depending on the magnitude of emissions. The SCAQMD has indicated that the there are instances when the project-level thresholds may be used as an indicator defining if project emissions contribute to the regional cumulative impact. The use of the project-specific thresholds to determine a

cumulative impact is acceptable for a project that is not constructed, by necessity, with another project. The proposed project is not dependent on another project and the project-level thresholds have been deemed appropriate for assessing the cumulative impact.

As discussed in Section III(b) above, the proposed project would not generate air pollutant emissions that exceed the project-level thresholds. Therefore, the proposed project would not significantly contribute to cumulative regional emissions during construction, and no impact to a cumulatively considerable net increase in emissions during operations would occur.

d) Expose sensitive receptors to substantial pollutant concentrations?

Less Than Significant Impact. Some land uses are considered more sensitive to changes in air quality than others, depending on the population groups and the activities involved. The California Air Resources Board 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. Sensitive receptors located near the project site include the following land uses:

- 99th Street Elementary School adjacent to the east and south
- Residences on Wadsworth Avenue located approximately 50 feet to the west
- Residences on 98th Street located approximately 200 feet to the north
- Residences on Century Boulevard located approximately 500 feet to the south
- Will Rogers Memorial Park located approximately 1,300 feet to the southeast

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

Construction activity would generate on-site pollutant emissions associated with equipment exhaust and fugitive dust. Table 3-2 shows the estimated localized emissions. Maximum daily emissions would not exceed the SCAQMD localized significance thresholds. Therefore, the impact to sensitive receptors would be less than significant.

Table 3-2 Localized Construction Emissions

Construction Phase	Emission Source	ROG	CO	NOx	SOx	PM_{10}	$PM_{2.5}$
Phase 1: Site Preparation	Construction Equipment	2	8	10	<1	1	1
	Fugitive Dust	--	--	--	--	<1	<1
	Subtotal Emission	*2*	*8*	*10*	*<1*	*1*	*1*
Phase 2: Construction	Construction Equipment	4	17	30	<1	1	1
	Fugitive Dust	--	--	--	--	<1	<1
	Subtotal Emission	*4*	*17*	*30*	*<1*	*1*	*1*
Maximum Localized Total		4	17	30	<1	1	1
Localized Significance Threshold		*n/a*	426	103	*n/a*	*3*	*4*
Exceed Threshold?		**No**	**No**	**No**	**No**	**No**	**No**

SOURCE: Terry A. Hayes Associates, 2013.

The greatest potential for toxic air contaminant (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 has published *Health Risk Assessments for Proposed Land Use Projects*. It 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."[10] Nonetheless, as regional and localized particulate matter emissions resulting from construction activities would not result in significant impacts, it is similarly anticipated that diesel particulate emissions would not result in a significant health impact. Therefore, construction of the proposed project would result in a less than significant impact to sensitive receptors related to TAC emissions.

During operation, the potable water pumped through the 99th Street Wells Pumping Station would be chloraminated by applying two treatment chemicals, 0.8 percent sodium hypochlorite and LAS. LAS would be trucked in, but the sodium hypochlorite would be generated on site from salt using a process called on-site sodium hypochlorite generation. In this process, LAS would be stored on the project site and used to produce chloramine as a substitute for chlorine to disinfect the groundwater. LAS, also known as liquid ammonium sulfate, is not a hazardous air pollutant and would not lead to increased air quality health risks from activity associated with the project. Additionally, LAS has a low vapor pressure and in the event of a spill or leak, it would not evaporate. The ammonia would stay in solution and not off-gas ammonia fumes or vapors. Also, when LAS is stored inside a closed tank, it would not build up pressure. Because of its inherently safe qualities, LAS is not subject to regulation under the California Accidental Release Prevention program. The proposed project would result in a less than significant long-term impact to sensitive receptors during project operations.

[10] California Air Pollution Control Officers Association, *Health Risk Assessments for Proposed Land Use Projects,* 2009.

e) Create objectionable odors affecting a substantial number of people?

Less Than Significant Impact. 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 segment under construction. The proposed project would utilize typical construction techniques, and the odors would be typical of most construction sites and temporary in nature. Therefore, the odor impact during construction would be less than significant.

As mentioned above, LAS would be used to produce chloramine. LAS is a stable, non-toxic, non-volatile, non-flammable, odorless chemical. LAS contains ammonia gas vapor in a water solution. LAS has a low vapor pressure; therefore, in the event of a spill or leak, it would not evaporate. The LAS would stay in solution form and not off-gas ammonia fumes or vapors. Therefore, the odor impact during operations would be less than significant.

IV. BIOLOGICAL RESOURCES

Would the project:

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

No Impact. Sensitive plants include those listed as threatened or endangered, proposed for listing, or candidate for listing by the U.S. Fish and Wildlife Service (USFWS) and/or California Department of Fish and Wildlife (CDFW) or those listed by the California Native Plant Society. Sensitive wildlife species are those species listed as threatened or endangered, proposed for listing, or candidate for listing by USFWS and/or CDFW, or considered special status by CDFW. Sensitive habitats are those that are regulated by USFWS, U.S. Army Corps of Engineers, and/or those considered sensitive by the CDFW.

The California Natural Diversity Database and the California Native Plant Society *Inventory of Rare and Endangered Plants* were reviewed for information on known occurrences of sensitive species and communities within a 10-mile radius of the project site; it included the Beverly Hills, Hollywood, Inglewood, Long Beach, Los Angeles, Redondo Beach, South Gate, Torrance, and Venice U.S. Geological Survey 7.5-minute topographic quadrangle maps.[11,12] Based on the above literature review, 12 sensitive wildlife species, 12 sensitive plant species, and 7 sensitive plant communities were identified as having the potential to occur in the vicinity (i.e., within 10 miles) of the proposed project.

[11] California Department of Fish and Wildlife. *California Natural Diversity Database* (Version 3.1.0). Biogeographic Data Branch. Accessed on August 31, 2013.

[12] California Native Plant Society. *Inventory of Rare and Endangered Plants* (online edition, v8-02). Sacramento, CA. Accessed on August 31, 2013.

Because the proposed project would involve construction of a chloramination station within an existing pumping station complex, there would be no direct impacts to sensitive plants, wildlife, or vegetation communities. Only weeds and wild grasses would be removed to install the proposed chloramination station and appurtenant facilities. Further, all construction staging would occur within the project site, such that no indirect impacts to native vegetation, sensitive plants, sensitive wildlife species, or sensitive vegetation communities.

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

No Impact. As discussed in Section IV(a) above, construction activities would occur entirely within an existing, fully urbanized portion of South Los Angeles. No native vegetation removal would occur, and there would be no direct or indirect impact to a riparian habitat or other sensitive natural community.

c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

No Impact. As discussed in Section IV(a) above, construction activities would occur entirely within an existing, fully urbanized portion of South Los Angeles. No wetlands are located within or adjacent to the project site. There would be no impact to direct or indirect federally protected wetlands.

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery/breeding sites?

No Impact. In an urban context, a wildlife migration corridor can be defined as a linear landscape feature of sufficient width and buffer to allow animal movement between two comparatively undisturbed habitat fragments, or between a habitat fragment and some vital resources, thereby encouraging population growth and diversity. A viable wildlife migration corridor consists of more than a path between fragmented habitats. A wildlife migration corridor must also include adequate vegetative cover and food sources for transient species, as well as resident populations of less mobile animals to survive. They must be extensive enough to allow for large animals to pass relatively undetected, be free of obstacles, and lack any other distraction that may hinder wildlife passage such as lights or noise.

As discussed in Section IV(a) above, construction activities would occur entirely within an existing, fully urbanized portion of South Los Angeles. Therefore, the proposed project does not constitute a wildlife corridor, nor does it abut one. No native vegetation removal would occur and no water bodies would be affected. Therefore, there would be no impact to suitable nesting or migratory habitat. No impact would occur.

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance (e.g., oak trees or California walnut woodlands)?

No Impact. The proposed project would not conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. Construction of the proposed project would not require removal of any trees, including trees under the protection of the City of Los Angeles Tree Protection Ordinance.[13] No impact to protected trees would occur.

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

No Impact. The proposed project would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. The project site is not located within any Significant Ecological Areas or designated Critical Habitat. No regional habitat conservation plans or Natural Community Conservation Plans have been adopted within the project area.[14] No impact would occur.

V. CULTURAL RESOURCES

Potential impacts to cultural resources associated with the proposed project were determined from the results presented in the Cultural Resources Assessment (see Appendix B).

Would the project:

a) Cause a substantial adverse change in the significance of a historical resource as defined in California Code of Regulations Section 15064.5?

Less Than Significant Impact. The project area and a study area encompassing a 0.5-mile radius around the project site were examined for cultural resource investigations and previously recorded cultural resource sites. The archival research included a review of previously recorded archaeological site records and reports, historic site and property inventories, and historic maps including Sanborn Fire Insurance Maps.

The records search indicated that one cultural resource has been previously recorded within a 0.5-mile radius of the project site; however, this resource does not occur within the project site. No historic resources, landmarks, or monuments were recorded with the California State Historic Resources Inventory, California Historical Landmarks, or Los Angeles Historic Cultural Monument Register within the 0.5-mile radius of the project site.

Additionally, the project footprint and surrounding areas were surveyed for historic architectural resources that have the potential to be impacted by the proposed

[13] City of Los Angeles Municipal Code, Section 17.02.
[14] County of Los Angeles, *General Plan, Significant Ecological Areas and Coastal Resource Areas*, October 2011.

project. Two resources that were or appeared to be 45 years of age or older and have the potential to be impacted, directly or indirectly, by project activities were identified in the Area of Potential Effects. However, neither the 99th Street Wells Pumping Station or the 99th Street Elementary School meet the criteria to be eligible for listing on the California Register of Historic Resources (CRHR) (see Appendix B). The resources do not meet the level of significance to meet CRHR criteria 1 through 4. Neither resource has specific associations with any historic events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States (Criterion 1); has specific associations with a person whose life was important to local, California, or national history (Criterion 2); embodies the distinctive characteristics of a type, period, or method of construction or represent the work of a master, or possess high artistic values (Criterion 3); or yield information important in the prehistory or history of the local area, California, or the nation (Criterion 4).

There are no significant historical resources within the Area of Potential Effects. Therefore, the proposed project would not cause a substantial adverse change in the significance of a historical resource, and the impact would be less than significant.

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to California Code of Regulations Section 15064.5?

Less Than Significant Impact. Review of previous investigations in the vicinity of the project site and of the prehistoric context for the area provides an understanding of the potential for encountering prehistoric sites in the project site. Additionally, subsequent land use helps determine whether archaeological remains have been preserved.

The project vicinity was previously used as ranchland since the Spanish period. The lands lay within the grazing area of Mission San Gabriel Arcángel, and not far from important routes to San Pedro. The location of the proposed project is in the vicinity of the first area land grant known as Rancho la Tajuata, or Tajuata. The land was ranched as part of Rancho la Tajuata as early as 1820. From 1926, the 99th Street Elementary School has existed just south of the property, and homes began to spring up nearby in the first quarter of the 20th century. A building appears on the site in 1937 topographic maps (see Appendix B). As such, there is some potential to encounter archaeological resources associated with these historic uses within the project site.

Historically, Tajuata was known for its swamps, springs, and artesian wells. Rich soil and once abundant waters may have made this area desirable for indigenous peoples. However, currently, the water sources shown in historic maps of the 99th Street area are dried up or tamed, often to provide water for the City of Los Angeles. Prehistoric resources could be buried beneath the ground surface, especially in areas where development has included only minimal ground disturbance. The proposed building site is undeveloped and may hold intact prehistoric deposits, with the likelihood increasing with depth.

A cultural resources field survey of the project site was conducted on July 23, 2013. The survey of the study area did not result in the identification of any previously unknown archaeological resources.

Ground disturbance required for the proposed project is not expected to exceed 9 feet in depth. Based on the results of the archival research and survey, there is low potential that archaeological resources would be encountered during ground disturbing activities for the proposed project. However, in the event archaeological resources are encountered during ground disturbing activities, LADWP would be required to contact a qualified archaeologist to evaluate and determine appropriate treatment for the resource in accordance with California Public Resource Code Section 21083.2(i). Work would be temporarily halted until the evaluation is completed. If any Native American cultural material is encountered within the project site, consultation with interested Native American parties would be conducted to apprise them of any such findings and solicit any comments they may have regarding appropriate treatment and disposition of the resources. Compliance with these existing regulations would ensure that impacts to archaeological resources would be less than significant.

c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Less Than Significant Impact. Consultation of the U.S. Geological Survey *Preliminary Geologic Map of the Los Angeles 30' x 60' Quadrangle, Southern California*[15] shows that the 99th Street Wells Pumping Station and surrounding area consist of younger Quaternary Alluvium. The field visit did not reveal the presence of any local conditions that would contradict this assertion or require special consideration. These deposits are younger than 10,000 years old. Consequently, such deposits have a low probability of yielding fossils, including vertebrate fossils or other scientifically significant fossils. Excavation is not anticipated to exceed 8.5 feet in depth for any component of the proposed project, and therefore is not anticipated to disturb any other subsurface deposits or formations. The impact to paleontological resources would be less than significant.

d) Disturb any human remains, including those interred outside of formal cemeteries?

Less Than Significant Impact. No formal cemeteries or other places of human internment are known to exist within the project site. No evidence of human remains was observed on the surface during the survey within the project site (see Appendix B). A Sacred Lands File search and Native American contact program were conducted for the proposed project. Although not expected, human remains could be encountered during construction. In the event that any human remains or related resources are discovered, such resources would be treated in accordance with state and local regulations and guidelines for disclosure, recovery, relocation, and preservation, as appropriate, including CEQA Guidelines Section 15064.5(e). Work in the immediate vicinity of the discovery would be suspended until the

[15] Yerkes, Robert F., and Russell H. Campbell (2005), 2005 Preliminary Geologic Map of the Los Angeles 30' x 60' Quadrangle, Southern California. U.S. Geological Survey Open-File Report 2005-1019. Available online: http://pubs.usgs.gov/of/2005/1019/ Accessed July 26, 2013.

remains are evaluated by the county coroner as to the nature of the remains. If the remains are determined to be of Native American origin, the Native American Heritage Commission would be contacted and a Most Likely Descendent identified pursuant to Public Resources Code Section 5097.98 and California Code of Regulations Section 15064.5. Compliance with existing regulations would ensure that impacts related to the discovery of human remains would be less than significant.

VI. GEOLOGY AND SOILS

Would the project:

a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

Less Than Significant Impact. The proposed project would not expose people or structures to new adverse effects associated with rupture of a known earthquake fault. There are numerous known earthquake faults in the close proximity of the project site; however, the project site is not located within a City-designated fault rupture zone.[16] The proposed chloramination station and appurtenances would be designed and constructed in accordance with the latest version of the City of Los Angeles Building Code and other applicable federal, state, and local codes relative to seismic criteria. Compliance with existing regulations would ensure a less than significant impact related to fault rupture.

ii) Strong seismic ground shaking?

Less Than Significant Impact. The project site is located within the seismically active southern California region, and like all locations within the area, is subject to strong seismic ground shaking. However, as discussed in Section VI(a)(i) above, the proposed chloramination station and appurtenances would be designed and constructed in accordance with the latest version of the City of Los Angeles Building Code and other applicable federal, state, and local codes relative to seismic criteria. Therefore, the impact from strong seismic ground shaking would be less than significant.

iii) Seismic-related ground failure, including liquefaction?

Less Than Significant Impact. The project site is located within a City-designated liquefiable area and a state zone of liquefaction where historic occurrence of liquefaction, or local geological, geotechnical, and groundwater conditions indicate a potential for permanent ground displacements.[17,18]

[16] City of Los Angeles Department of City Planning, Environmental and Public Facilities Maps, *Alquist-Priolo Special Study Zones & Fault Rupture Study Areas* Map, September 1996.

[17] City of Los Angeles Department of City Planning, Environmental and Public Facilities Maps, *Areas Susceptible to Liquefaction* Map, September 1996.

However, the proposed project would be designed and constructed in compliance with the latest version of the City of Los Angeles Building Code and other applicable federal, state, and local codes relative to liquefaction criteria. Compliance with existing regulations would ensure a less than significant impact related to seismic-related ground failure, including liquefaction.

iv) Landslides?

No Impact. The project site is not located within a City-designated hillside area.[19] Further, construction of the chloramination station would not be expected to increase the risk of landslides in the hillside areas. No impact related to landslides would occur.

b) Result in substantial soil erosion or the loss of topsoil?

Less Than Significant Impact. Construction activities would expose soils for a limited time, allowing for possible erosion. However, all excavation would comply with all applicable provisions of Chapter IX, Division 70 of the Los Angeles Municipal Code, which addresses grading, excavation, and fill. During construction, transport of sediments from the project site by storm water runoff and winds would be prevented through the use of appropriate BMPs. As discussed in Section 1.7, Rule 403 dust control measures would be implemented as required by the SCAQMD. Additionally, LADWP would develop and implement a stormwater pollution prevention plan (SWPPP) for construction activities, in compliance with the latest National Pollutant Discharge Elimination System requirements for storm water discharges. The SWPPP would include erosion controls. Implementation of the required construction BMPs would ensure that soil erosion impacts would be less than significant.

No large areas of exposed soils subject to erosion would be created or affected by operation of the proposed project. Therefore, there would be no long-term impact related to erosion and loss of topsoil.

c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?

Less Than Significant Impact. One of the major types of liquefaction induced ground failure is lateral spreading of mildly sloping ground. Lateral spreading involves primarily side-to-side movement of earth materials due to ground shaking, and is evidenced by near-vertical cracks to predominantly horizontal movement of the soil mass involved. As discussed in Sections VI(a)(iii) and VI(a)(iv) above, the project site is located in an area identified as being at risk for liquefaction, but is not located within a designated hillside area. Nonetheless, all construction work would adhere to the latest version of the City of Los Angeles Building Code, and other applicable federal, state, and local codes relative to liquefaction criteria.

[18] State of California Seismic Hazard Zones Map, Inglewood Quadrangle. March 25, 1999.
[19] City of Los Angeles Department of City Planning, Environmental and Public Facilities Maps, *Landslide Inventory & Hillside Areas* Map, September 1996.

Subsidence is the lowering of surface elevation due to changes occurring underground, such as the extraction of large amounts of groundwater, oil, or gas. When groundwater is extracted from aquifers at a rate that exceeds the rate of replenishment, overdraft occurs, which can lead to subsidence. However, the proposed project does not anticipate the extraction of any groundwater, oil, or gas from the project site. Pumping of groundwater would continue within the 99th Street Wells Pumping Station. However, no increase in withdrawal is anticipated. The proposed project involves the changeover in treatment processes of pumped groundwater from chlorine to chloramine disinfection prior to distribution to the service area. Therefore, subsidence would not occur.

Collapsible soils consist of loose dry materials that collapse and compact under the addition of water or excessive loading. Collapsible soils are prevalent throughout the southwestern United States, specifically in areas of young alluvial fans. Soil collapse occurs when the land surface is saturated at depths greater than those reached by typical rain events. However, the proposed project would be constructed in accordance with the latest version of the City of Los Angeles Building Code and other applicable federal, state, and local codes relative to seismic criteria. These building codes are designed to ensure safe construction. Compliance with existing regulations would ensure a less than significant impact.

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?

Less Than Significant Impact. Expansive soils are clay-based soils that tend to expand (increase in volume) as they absorb water and shrink (lessen in volume) as water is drawn away. If soils consist of expansive clays, foundation movement and/or damage can occur if wetting and drying of the clay does not occur uniformly across the entire area. The on-site geologic materials in the project area primarily consist of alluvium.[20] Due to the mix of earth materials underlying the project site, these soils are not expected to be high clay-bearing, and expansion potential is considered low. Additionally, the proposed project would be constructed in accordance with the latest version of the City of Los Angeles Building Code and other applicable federal, state, and local codes relative to seismic criteria. Therefore, the proposed project would not create a substantial risk to life or property resulting from expansive soils, and the impact would be less than significant.

e) Have soils incapable of adequately supporting use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

No Impact. The proposed project involves the construction of a chloramination station to provide chloramine disinfection to the groundwater supply distributed through the 99th Street Wells Pumping Station. No septic tanks or alternative wastewater disposal systems are proposed. Therefore, no impact associated with the use of such systems would occur.

[20] California Department of Conservation, *Seismic Hazard Zone Report for the Inglewood 7.5-Minute Quadrangle, Los Angeles County, California*, January 2006.

VII. GREENHOUSE GAS EMISSIONS

Would the project:

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Less Than Significant Impact. Greenhouse gas (GHG) emissions refer to a group of emissions that are generally believed to affect global climate conditions. 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. Of all the GHGs, CO_2 is the most abundant gas that contributes to climate change through fossil fuel combustion. 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 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 *CEQA and Climate Change* white paper (January 2008). A significance threshold of 10,000 metric tons per year, which is the standard used by the Market Advisory Committee for inclusion in a GHG Cap and Trade System in California, was used based on an assessment of the California Air Pollution Control Officers Association document.

GHG emissions were estimated for equipment exhaust, truck trips, and worker commute trips. Construction of the new chloramination station is scheduled to be completed in two years (2016-2018). The SCAQMD has developed guidance for the determination of the significance of GHG construction emissions, and recommends emissions for construction to be amortized over 30 years. As shown in Table 3-3, maximum GHG emissions would be 88 metric tons per year. Estimated GHG emissions would be less than the 10,000 metric tons of CO_2e per year quantitative significance threshold. Therefore, the GHG emissions impact would be less than significant during construction of the proposed project.

Table 3-3 Annual Greenhouse Gas Emissions

Source	Carbon Dioxide Equivalent (Metric Tons per Year)
Amortized Construction Emissions	88
Significance Threshold	*10,000*
Exceed Threshold?	No

SOURCE: Terry A. Hayes Associates, 2013.

Regarding operational emissions, the proposed project would not involve any additional site staff or maintenance activities beyond existing operating conditions. Chemical deliveries would be reduced from the existing delivery of 12.5 percent sodium hypochlorite every week to the delivery of LAS 4 times a year. Salt

deliveries would be made approximately 9 times per year. Therefore, no impact to GHG emissions would occur during operation of the proposed project.

b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

No Impact. As shown in Table 3-3 above, the proposed project would not generate significant construction emissions. In addition, the proposed project would not involve any additional site staff or maintenance activities beyond existing operating conditions. Chemical deliveries would be reduced from the existing delivery of 12.5 percent sodium hypochlorite every 2 weeks to the delivery of LAS 4 times a year. Salt would be delivered 9 times per year. The proposed project would not conflict with any state or local climate change policy or regulation adopted for the purpose of reducing emissions of GHGs. Therefore, no impact would occur.

VIII. HAZARDS AND HAZARDOUS MATERIALS

Would the project:

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Less Than Significant Impact. Implementation of the proposed project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

Construction activities would be temporary in nature and would involve the limited transport, storage, use, and disposal of hazardous materials. Such hazardous materials could include on-site fueling/servicing of construction equipment; the transport of fuels, lubricating fluids, and solvents; and the removal of excavation material and debris. All storage, handling, and disposal of these materials are regulated by the California Department of Toxic Substances Control, the U.S. Environmental Protection Agency, the Occupational Safety & Health Administration, Los Angeles Fire Department (LAFD), and the Los Angeles County Health Department. The transport, use, and disposal of construction-related hazardous materials would occur in conformance with applicable federal, state, and local regulations governing such activities. Therefore, the short-term construction impact would be less than significant.

Long-term operation of the proposed project would involve the transport, storage, use, or disposal of hazardous materials. The potable water pumped through the 99th Street Wells Pumping Station would be chloraminated by applying two treatment chemicals, 0.8 percent sodium hypochlorite and LAS. LAS, also known as liquid ammonium sulfate, is a stable, non-toxic, non-volatile, non-flammable, odorless chemical. Additionally, LAS has a low vapor pressure and in the event of a spill or leak, it would not evaporate. The ammonia would stay in solution and not off-gas ammonia fumes or vapors. Also, when LAS is stored inside a closed tank, it would not build up pressure. Because of its inherently safe qualities, LAS is not subject to regulation under the California Accidental Release Prevention program. LAS would be trucked in, but the sodium hypochlorite would be generated on-site from salt. The 0.8 percent sodium hypochlorite would be produced using an electrolytic process eliminating the need for delivery, storage, and use of bulk 12.5

percent sodium hypochlorite. The sodium hypochlorite produced through the electrolytic process would then be injected into the water entering the existing pump station forebay for primary disinfection. Then, LAS with additional sodium hypochlorite would be injected into the water at the pump station suction line to produce the chloramine residual necessary to meet water quality standards in the service area. With a maximum flow rate of 10.9 cubic feet per second from the 99th Street Wells Pumping Station, the anticipated maximum sodium hypochlorite usage would be approximately 3.3 gallons per minute (4,740 gallons per day), and LAS usage would be approximately 53 gallons per day of LAS solution. Wastewater from the residual analyzer and water softening systems would be collected and conveyed through the waste line to the public sewer on Wadsworth Avenue.

Because sodium hypochlorite would be produced on-site using salt and water, the only chemical deliveries required during project operation would be a maximum of 4 annual deliveries of LAS in a LAS tanker. Approximately 9 deliveries a year totaling 90 tons of salt would be delivered to the project site. All 12.5 percent sodium hypochlorite deliveries to the project site would cease.

This project would eliminate the use of 12.5 percent sodium hypochlorite in exchange for a new on-site generation system making 0.8 percent sodium hypochlorite from salt and water. A storage and feed system for LAS including two 2,750-gallon LAS tanks would be added. The addition of the LAS system enables the conversion from free chlorine disinfection to chloramine disinfection. Switching over to chloramine disinfection reduces trihalomethanes and other disinfection byproducts that result from chlorination. The conversion of chlorine disinfection to chloramine disinfection would result in no further transport or storage of 12.5 percent sodium hypochlorite. There would be 4 deliveries of LAS annually. LAS is a stable, non-toxic, non-volatile, non-flammable, and odorless chemical that is safer than the station's existing chlorine being transported to the site.

However, in the event of a leak or spill, LADWP would have emergency response plans set in place with LAFD. In the event of a LAS leak or spill occurring outside during filling of the LAS tank, LAS would be diverted into the containment area inside the building. Prior to filling, operators are to ensure that valves at the catch basin are positioned so that potential leaks would flow into the containment area inside the building.

In the event of a hydrogen gas leak, the sodium hypochlorite generation unit would turn off and the room ventilation fan would remain on. A second back-up emergency fan would also turn on to quickly vent the hydrogen gas outside. Additionally, upon detection of hydrogen gas, sensors would transmit both a local alarm and a remote alarm signal to a continuously-manned station.

In addition, intrusion alarms triggered by the building doors would be transmitted to a continuously-manned station. Security video cameras would be installed inside each room of the building and around the exterior of the building. Camera recordings would be transmitted to a continuously-manned station. Additionally, all electrical safety systems would be equipped with back-up power via an emergency generator or battery. LADWP operators would be on stand-by 24 hours a day, 7 days a week, and would respond promptly to any alarm or emergency conditions.

The use of safer chemicals and chloramination process and the implementation of safety features described in Section 1.6 would minimize the risk for spills and exposure to sensitive receptors. Therefore, project operation related to the use or transport of hazardous materials would pose a less than significant hazard to the public or the environment.

b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Less Than Significant Impact. The project construction would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. As discussed in Section VIII(a) above, construction activities may involve limited transport, storage, use, or disposal of some hazardous materials, such as on-site fueling/servicing of construction equipment; the transport of fuels, lubricating fluids, and solvents; and the removal of excavation material and debris. Compliance with existing federal, state, and local regulations would ensure that construction impacts related to reasonably foreseeable upset and accident conditions involving the release of hazardous materials would be less than significant.

As discussed in Section VIII(a), long-term operation of the proposed project would involve the transport, storage, use, or disposal of hazardous materials. The current 12.5 percent sodium hypochlorite system would be replaced with on-site generation of 0.8 percent sodium hypochlorite. The electrolytic process to produce sodium hypochlorite is safer and eliminates the need for delivery, storage, and use of bulk 12.5 percent sodium hypochlorite. Because sodium hypochlorite would be produced on-site using salt and water, the only chemical deliveries required during project operation would be 4 annual deliveries of LAS in a LAS tanker. Approximately 9 annual deliveries of salt would be delivered to the project site. All 12.5 percent sodium hypochlorite deliveries to the project site would cease. In the event of a spill that may occur outside during a delivery transfer operation, LAS would be diverted into the containment area inside the building. As discussed in Section VIII(a), the implementation of safety features described in Section 1.6 would minimize the risk for spills and exposure to sensitive receptors. Therefore, project operation related to reasonably foreseeable upset or accident conditions would pose a less than significant hazard to the public or the environment.

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances or waste within one-quarter mile of an existing or proposed school?

Less Than Significant Impact. The 99th Street Elementary School is located directly adjacent to the project site. As discussed in Section VIII(a) above, construction activities would involve limited transport, storage, use, and disposal of hazardous materials. However, as discussed, the transport, use, and disposal of construction-related hazardous materials would occur in conformance with all applicable federal, state, and local regulations governing such activities. Therefore, impacts related to the school would be less than significant.

Long-term operation of the proposed project would involve the transport, storage, use, or disposal of hazardous materials. However, the conversion of chlorine disinfection to chloramine disinfection would result in no further transport or storage of 12.5 percent sodium hypochlorite. There would be 4 deliveries of LAS annually. LAS is a stable, non-toxic, non-volatile, non-flammable, and odorless chemical that is safer than the station's existing chlorine being transported to the site. Additionally, the implementation of safety features described in Section 1.6 would minimize the risk for spills and exposure to sensitive receptors. Operational impacts related to the school would be less than significant.

d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

Less Than Significant Impact. The project site is not listed on the Department of Toxic Substances Control's EnviroStor database of identified underground storage tanks, the State Water Resources Control Board's GeoTracker site, the Cortese list, or the U.S. Environmental Protection Agency's National Priorities List.[21,22,23,24] These lists are compiled pursuant to Section 65962.5 of the Government Code. It is not anticipated that any underground storage tanks would be encountered or disturbed during construction activities. Therefore, implementation of the proposed project would not create a significant hazard to the public or the environment. The impact would be less than significant.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?

No Impact. The closest airports to the project site are the Compton/Woodley Airport, located 3.5 miles south of the project site, and the Hawthorne Municipal Airport, located 4.1 miles west of the project site.[25] Therefore, the proposed project would not result in a safety hazard related to an airport for people residing or working in the project area. No impact would occur.

f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?

No Impact. The project site is not located within the vicinity of a private airstrip.[26] The closest private airport is the Goodyear Blimp Base Airport, located 6 miles south of the project site. Therefore, the proposed project would not result in a

[21] California Department of Toxic Substances Control, EnviroStor *Database*. Website: http://www.envirostor.dtsc.ca.gov/public/, accessed September 2, 2013.
[22] California State Water Resources Control Board, *GeoTracker Database*, Search by Map Location. Website: http://geotracker.waterboards.ca.gov/, accessed September 2, 2013.
[23] California Department of Toxic Substances Control, *DTSC's Hazardous Waste and Substances Site List – Site Cleanup (Cortese List)*. Website: http://www.dtsc.ca.gov/SiteCleanup/Cortese_List.cfm, accessed September 2, 2013.
[24] United States Environmental Protection Agency, *National Priorities List*, Search by Location. Website: http://www.epa.gov/superfund/sites/query/queryhtm/nplmapsg.htm, accessed September 2, 2013.
[25] Airnav.com, Airports search. Website: http://www.airnav.com/airports/, accessed September 2, 2013
[26] Ibid.

safety hazard related to a private airport for people residing or working in the project area. No impact would occur.

g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Less Than Significant Impact. The proposed project would be constructed and operated within the 99th Street Wells Pumping Station complex. No lane closures, road closures or other activities that would physically interfere with an adopted emergency response plan are anticipated. No impact would occur during project construction.

Prior to project operation LADWP would revise the Emergency Response Plan and address emergency procedures associated with the proposed new facilities and operations to account for the change in on-site operations. Therefore, the long-term impact would be less than significant.

h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

Less Than Significant Impact. The project site is not located within a City-designated Mountain Fire District or Fire Buffer Zone.[27] However, it is located directly adjacent to LADWP's electrical transmission line, which is considered a selected wildland fire hazard in the City of Los Angeles. Prior to project operation, LADWP would revise the Emergency Response Plan and address safety procedures associated with the proposed new facilities and operations. Implementation of the Emergency Response Plan would ensure that wildland fire impacts would be less than significant.

IX. HYDROLOGY AND WATER QUALITY

Would the project:

a) Violate any water quality standards or waste discharge requirements?

Less Than Significant Impact. The proposed project would not violate a water quality standard or waste discharge requirement. Construction activities, such as excavation, would result in the disturbance of soil and temporarily increase the potential for soil erosion. Additionally, construction activities and equipment would require the on-site use and storage of fuels, lubricants, and other hydrocarbon fluids. Storm events occurring during the construction phase would have the potential to carry disturbed sediments and spilled substances from construction activities off-site to nearby receiving waters.

However, prior to the start of construction, LADWP would be required to obtain a General Construction Activity Storm Water Permit, issued by the State Water Resources Control Board and an Industrial Waste Discharge Permit from the City of Los Angeles Department of Public Works, Bureau of Engineering. One of the

[27] City of Los Angeles Department of City Planning, Environmental and Public Facilities Maps, *Selected Wildfire Hazard Areas* Map, September 1996.

conditions of the General Permit is the development and the implementation of a SWPPP, which would identify structural and nonstructural Best Management Practices to be implemented during the construction phase. BMPs developed for the SWPPP may include, but not be limited to, minimizing the extent of disturbed areas and duration of exposure, stabilizing and protecting disturbed areas, keeping runoff velocities low, and retaining sediment within the construction area, as well as the use of temporary desilting basins, silt fences, gravel bag barriers, temporary soil stabilization, temporary drainage inlet protection, and diversion dikes and interceptor swales. With implementation of BMPs, the proposed project would not violate any water quality standards or waste discharge requirements. Therefore, impacts on water quality from construction activities would be less than significant.

Therefore, operation of the proposed project would not violate any water quality standards or water discharge requirements.

b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?

Less Than Significant Impact. The proposed project would enable chloramination of groundwater pumped by the 99th Street Wells Pumping Station using an on-site sodium hypochlorite generation system. Pumping of groundwater would continue within the 99th Street Wells Pumping Station. However, no increase in withdrawal is anticipated. The proposed project involves the changeover in treatment processes of pumped groundwater from chlorine to chloramine disinfection prior to distribution to the service area. Therefore, the impact to groundwater supply would be less than significant.

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner, which would result in substantial erosion or siltation on- or off-site?

Less Than Significant Impact. The proposed project would be located entirely within the existing 99th Street Wells Pumping Station complex. The proposed chloramination station would be built on the grassy area in the southeast corner of the project site. The current topography of the proposed building site is flat and undeveloped.

Construction activities would temporarily increase the potential for erosion due to excavation. However, compliance with the SWPPP developed for the proposed project, which would include erosion control measures, would ensure a less than significant impact. Since the topography of the proposed building site is flat and minimal in area, impacts related to erosion resulting from altered drainage patterns would be less than significant.

d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner, which would result in flooding on- or off-site?

Less Than Significant Impact. As discussed in Section IX(c) above, the project site would be located entirely within the existing 99th Street Wells Pumping Station complex. However, the proposed chloramination station would be built on the existing grassy area in the southeast corner of the project site. Construction of the building, having a small foot print, would not substantially increase the amount of surface runoff. As discussed in Section IX(a) above, BMPs would be implemented to control runoff from the project site during construction. Therefore, flooding is not expected to occur on- or off-site as a result of the proposed project. Implementation of BMPs would ensure a less than significant impact.

e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

Less Than Significant Impact. As discussed above, implementation of the proposed project would result in the removal of a portion of the project site's permeable surface. However, the facility design would comply with the City of Los Angeles Standard Urban Stormwater Mitigation Plan regulations and the City of Los Angeles Low Impact Development Ordinance to manage storm water on-site. The proposed project would include measures to capture and infiltrate storm water for groundwater recharge or for reuse on-site by directing runoff into pervious areas and reducing impervious areas. Thus, no substantial increase in the amount of runoff from the project site is anticipated.

Construction would require water, as necessary, to control fugitive dust. Fugitive dust emissions at the construction site would be controlled by water trucks equipped with spray nozzles. Construction water needs would generate minimal quantities of discharge water, which would drain into existing storm drains located in the vicinity of the project site. BMPs would be identified in the SWPPP developed for the proposed project pursuant to the National Pollutant Discharge Elimination System permit requirements to control runoff during construction. Thus, the proposed project would not create or contribute runoff which would exceed drainage system capacity, nor would it provide substantial additional sources of polluted runoff. The impact would be less than significant.

f) Otherwise substantially degrade water quality?

Less Than Significant Impact. Potential sources of contaminants that could potentially degrade water quality would include soil erosion and fuels for construction equipment. During project operation, the proposed LAS to be used at the project site is a stable, non-toxic, non-volatile, non-flammable, and odorless chemical. The station would employ a food-grade type of 40 percent LAS which has a National Sanitation Foundation rating 60 approval and is American Water Works Association-certified. Because of its safe qualities, LAS is not subject to regulation under the California Accidental Release Prevention program. As discussed in Section IX(a) above, a SWPPP would be developed and implemented for the proposed project construction to prevent the degradation of water quality.

Further, LADWP would design and construct chloramination facilities and its appurtenances in accordance with existing local, state, and federal regulations and guidelines, including standards set by the California Department of Health Services. Implementation of BMPs and compliance with existing regulations would ensure a less than significant impact.

g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?

No Impact. A 100-year flood is a flood defined as having a 1.0 percent chance of occurring in any given year. The project site is located within areas designated as Other Areas Zone X on the Federal Emergency Management Agency flood insurance rate maps. The Other Areas Zone X designation indicates areas determined to be outside the 0.2 percent annual chance floodplain.[28] Therefore, the project site is not known to experience flooding and is not anticipated to flood in the future. Further, the proposed project does not include a residential component; therefore, it would not place housing within a 100-year flood hazard area. No impact would occur.

h) Place within a 100-year flood area structures to impede or redirect flood flows?

No Impact. As discussed above, the project site is designated as Other Areas Zone X, which indicates the area is determined to be outside the 100-year floodplain.[29] No impact to flooding would occur.

i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?

Less Than Significant Impact. The project site would be located within a City-designated inundation area.[30] However, the project site is located outside of an existing floodplain and approximately two miles from the closest body of water. Therefore, flooding as a result of the failure of a levee or dam would be unlikely. The proposed project involves construction of a chloramination station within an existing pumping station complex. LADWP would construct the chloramination station and its appurtenances in compliance with existing federal, state, and local regulations. Additionally, no habitable structures are included as part of the proposed project. Therefore, implementation of the proposed project would not expose people or structures to a significant risk of loss, injury or death involving flooding as a result of the failure of a levee or dam. The impact would be less than significant.

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28 Federal Emergency Management Agency, Flood Insurance Rate Maps, Search by Street Address. Website: http://msc.fema.gov/webapp/wcs/stores/servlet/FemaWelcomeView?storeId=10001&catalogId=10001&langId=-1, accessed September 2, 2013.

29 Ibid.

30 City of Los Angeles Department of City Planning, Environmental and Public Facilities Maps, *Inundation and Tsunami Hazard Areas* Map, September 1, 1996.

j) Inundation by seiche, tsunami, or mudflow?

No Impact. Seiches are oscillations generated in enclosed bodies of water usually as a result of earthquake-related ground shaking. A seiche wave has the potential to overflow the sides of a containing basin to inundate adjacent or downstream areas. As discussed above, the project site would be located within a City-designated inundation area. However, seiches primarily cause damage to properties that are located in close proximity to a body of water. The distance between the project site and the closest body of water is approximately two miles. Thus, there is a decreased risk of a seiche resulting in damage to the proposed project. No impact would occur.

Tsunamis are large ocean waves caused by the sudden water displacement that results from an underwater earthquake, landslide, or volcanic eruption. Tsunamis affect low-lying areas along the coastline. The project site is not located within a designated Tsunami Hazard Area.[31] No impact would occur.

As discussed in Section VI(a)(iv) above, no portion of the project site is not located within a City-designated hillside area. Therefore, the project site would not be subject to a landslide. No impact would occur.

X. LAND USE AND PLANNING

Would the project:

a) Physically divide an established community?

No Impact. The proposed project would not physically divide an established community. The proposed project would be located entirely within the existing LADWP 99th Street Wells Pumping Station complex. No streets or sidewalks would be permanently closed as a result of the proposed project, and no separation of uses or disruption of access between land use types would occur. Therefore, the proposed project would not physically divide an established community, and no impact would occur.

b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

No Impact. The proposed project would be located entirely within the existing LADWP 99th Street Wells Pumping Station complex. The chloramination station would serve existing uses and would not conflict with the zoning or land use designations of such uses. Therefore, implementation of the proposed project would not conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project adopted for the purpose of avoiding or mitigating an environmental effect. No impact would occur.

[31] Ibid.

c) Conflict with any applicable habitat conservation plan or natural community conservation plan?

No Impact. The proposed project would be located entirely within an existing urbanized area. There are no adopted habitat conservation plans that apply to the project area, nor is the proposed project located in or near any natural community conservation plan areas (refer to Section IV[f] above). Therefore, the proposed project would not conflict with any such plan. No impact would occur.

XI. MINERAL RESOURCES

Would the project:

a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

No Impact. The proposed project is not located within a City-designated Mineral Resource Zone Area, which are areas where adequate information indicates that significant mineral deposits are present or where it is judged that a high likelihood for their presence exists.[32] The project site is also not located near any oil wells, fields, or drilling areas designated by the City or the state.[33,34] Therefore, implementation of the proposed project would not result in the loss of availability of a known mineral resources that would be of value to the region and residents of the state. No impact would occur.

b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?

No Impact. The project site is not delineated as a locally-important mineral resource recovery site on any City plans.[35] Further, as discussed in Section XI(a) above, no active oil wells exist on the project site. Therefore, implementation of the proposed project would not result in the loss of availability of a locally-important mineral resource recovery site, and no impact would occur.

[32] City of Los Angeles Department of City Planning, Environmental and Public Facilities Maps, *Areas Containing Significant Mineral Deposits* Map, September 1996.

[33] City of Los Angeles Department of City Planning, Environmental and Public Facilities Maps, *Oil Fields and Oil Drilling Areas* Map, September 1996.

[34] State of California Department of Conservation, Division of Oil, Gas, and Geothermal Resources, DOGGR Online Mapping System. Website: http://maps.conservation.ca.gov/doms/doms-app.html, accessed June 19, 2012.

[35] City of Los Angeles Department of City Planning, Environmental and Public Facilities Maps, *Oil Field & Oil Drilling Areas* Map, September 1996.

XII. NOISE

Would the project result in:

a) Exposure of persons to or generation of noise levels in excess of applicable standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Less Than Significant Impact. A significant impact would occur if the proposed project would expose persons to or generate noise levels in excess of standards established in the local general plan, noise ordinance, or other applicable standards. The City of Los Angeles regulates noise through several sections of its municipal code. These include Section 41.40, which establishes time prohibitions on noise due to construction activity, Section 112.04, which prohibits the use of loud machinery and/or equipment within 500 feet of residences, and Section 112.05, which establishes maximum noise levels for powered equipment and powered hand tools. According to Section 41.40, no construction activity that might create loud noises in or near residential areas or buildings will be conducted before 7:00 a.m. or after 9:00 p.m. on weekdays, before 8:00 a.m. or after 6:00 p.m. on Saturday, or at any time on Sunday or City holidays. The time restriction will not apply to any person who performs the construction, repair or excavation work involved pursuant to the express written permission of the Board of Police Commissioners through its Executive Director. The Executive Director, on behalf of the Board, may grant this permission, upon application in writing, where the work proposed to be done is in the public interest, or where hardship or injustice, or unreasonable delay would result from its interruption during the hours mentioned above, or where the building or structure involved is devoted or intended to be devoted to a use immediately related to public defense.

Existing Noise Levels

Sensitive receptors located near the project site include the following land uses:

- 99th Street Elementary School adjacent to the east and south
- Residences on Wadsworth Avenue located approximately 50 feet to the west
- Residences on 98th Street located approximately 200 feet to the north
- Holy Trinity Church located approximately 350 feet to the north
- Residences on Century Boulevard located approximately 500 feet to the south

The existing noise environment is characterized by vehicular traffic on local roadways and noises typical of a dense urban area (e.g., sirens, horns, airplanes, etc). Noise monitoring locations were selected to be representative of the ambient environment in the project area. Ambient noise monitoring was performed using a SoundPro DL Sound Level Meter between 11:10 a.m. and 4:10 p.m. on August 13, 2013. As shown in Table 3-4 below, existing noise levels range from 55.6 to 66.6 A-weighted decibels (dBA) community noise equivalent level (L_{eq}) on locations adjacent to the proposed project.

Table 3-4 Existing Noise Levels

Noise Monitoring Location	Noise Level (dBA, L_{eq})
858 East 99th Street	58.3
939 East 98th Street	55.6
1136 East Century Boulevard	66.6

SOURCE: Terry A. Hayes Associates, 2013.

Construction

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. According to Section 112.05 of the Los Angeles Municipal Code, powered equipment and hand tools may not produce a maximum noise level exceeding 75 dBA at a distance of 50 feet. However, this noise limitation does not apply where compliance is technically infeasible, including the use of such equipment as mufflers or other noise reduction devices during the operation of equipment. Table 3-5 shows the noise level ranges for the types of equipment that would be used during construction of the proposed project. Equipment noise levels would typically be greater than 75 dBA L_{eq} at 50 feet.

Table 3-5 Construction Equipment Noise Level Ranges

Construction Equipment	Noise Level at 50 feet (dBA, L_{eq})
Backhoe	73-95
Paver	85-88
Front Loader	73-86
Crane	75-88
Drill rig	79
Compactor	82
Concrete Pump	81-85

SOURCE: CEQA*, L.A. CEQA Thresholds Guide Your Response for Preparing CEQA Analyses in Los Angeles*, 2006.

Noise from construction activities would affect the areas immediately adjacent to each of the construction sites, specifically areas that are less than 500 feet from the construction site. As shown in Table 3-5 above, the construction equipment could generate noise levels up to 95 dBA at 50 feet, or multiple loud pieces of equipment operating simultaneously could combine to generate a noise level that exceeds 100 dBA at 50 feet. However, the City of Los Angeles has indicated that construction activity involving multiple pieces of equipment typically generate a noise level of 89 dBA at 50 feet.

Construction equipment noise levels would exceed the 75 dBA at 50 feet noise limitation listed in Section 112.05 of the Los Angeles Municipal Code. This code section, which explicitly addresses noise from construction equipment, requires that all feasible measures be implemented. As discussed in the Section 1.7, the

following noise BMPs would be implemented during project construction to control noise levels, including engine mufflers and noise blanket barriers.

1) All construction equipment would be properly maintained and equipped with mufflers and other suitable noise attenuation devices.

2) The construction contractor would use rubber-tired equipment rather than track equipment. Noisy equipment would be used only when necessary and would be switched off when not in use.

3) The construction contractor would ensure that all stockpiling and vehicle staging areas are located away from noise-sensitive receivers.

4) LADWP would establish a public liaison for project construction that would be responsible for addressing public concerns about construction activities, including excessive noise. The liaison would determine the cause of the concern (e.g., starting too early, bad muffler, etc.) and would work with LADWP to implement reasonable measures to address the concern.

5) The construction contractor would develop a construction schedule to ensure that the construction would be completed quickly to minimize the time a sensitive receptor would be exposed to construction noise.

6) Construction supervisors would be informed of project-specific noise requirements, noise issues for sensitive land uses adjacent to the project site, and/or equipment operations.

7) The construction contractor would install a 12-foot high temporary barrier along the northern, eastern, and southern limits of the construction site. The acoustical barrier would be constructed of material having a minimum surface weight of two pounds per square foot or greater, and a demonstrated Sound Transmission Class rating of 25 or greater as defined by American Society for Testing and Materials Test Method E90. The barrier would be required for the entirety of construction with the exception of approximately the last two months, as access to the site on these sides would be required for installation of driveway, curb and gutter, and the perimeter wall. The west side of the property will remain as is, and will not have sound walls as there needs to be access, and the amount of sound walls we would be able to put up would have negligible effects, and therefore would not be financially feasible.

8) Prior to construction work, the public would be notified of the location and dates of construction. Residents would be kept informed of any changes to the schedule.

9) LADWP would coordinate with the site administrator for the 99th Elementary School. Coordination between the site administrator and LADWP would continue on an as-needed basis while construction is occurring adjacent to these land uses to minimize potential disruption to the land uses.

The City of Los Angeles has indicated that mufflers typically reduce aggregate equipment noise levels by 3 dBA. Equipment noise would be at least 86 dBA at

50 feet after engine muffling. Noise sound blankets would reduce noise levels by up to 10 dBA if properly located between the noise source and receptor. While these BMP's are difficult to quantify, they would reduce and/or control construction noise levels.

Additional BMP measures were considered to reduce noise levels but were determined to be infeasible. These include:

- Electric Equipment - Electric equipment would generate less noise than diesel equipment but is not widely available and the horsepower associated with electric equipment would not meet project requirements.

- Relocation - Removing the affected land uses from the construction zone would eliminate the impact. This measure would not be feasible due to the number of affected land uses and associated cost of relocation.

Implementation of these BMPs would reduce equipment engine noise levels, to below 75 dBA at 50 feet. With implementation of these feasible BMP measures, construction activity would result in a less than significant noise impact.

Operational Noise

Regarding operational noise, the proposed project would not involve any additional site staff or maintenance activities beyond existing operating conditions. Chemical deliveries would be reduced from existing activity. Therefore, no noise impact would occur during operation of the proposed project.

b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

Less Than Significant Impact. A significant impact would occur if the proposed project would cause excessive vibration levels. Vibration levels rarely affect human health. Instead, most people consider vibration to be an annoyance that may affect concentration or disturb sleep. In addition, high levels of vibration may damage fragile buildings. The peak particle velocity is most frequently used to describe vibration impacts to buildings and is measured in inches per second.

Heavy trucks can generate groundborne vibrations that vary depending on vehicle type, weight, and pavement conditions. As heavy trucks typically operate on major streets, existing groundborne vibration in the project vicinity is largely related to heavy truck traffic on the surrounding roadway network. Based on field visits, vibration levels from adjacent roadways are not perceptible along the proposed project.

Construction

Construction activity can result in varying degrees of vibration, depending on the equipment and methods employed. Operation of construction equipment causes vibrations that spread through the ground and diminish in strength with distance. The primary source of operational vibration includes on-site haul trucks. Directional

drilling and standard construction equipment (e.g., a large bulldozer) generate vibration levels of approximately 0.089 inches per second at 25 feet. Table 3-6 presents typical vibration levels for such equipment at 12 to 150 feet. Other equipment used during construction activity would generate less vibration than presented for drilling or a large bulldozer.

Table 3-6 Vibration Velocities for Construction Equipment

Distance from Equipment (feet)	Peak Particle Velocity (inches/second)
12	0.268
15	0.191
20	0.124
25	0.089
50	0.031
75	0.017
100	0.011
125	0.008
150	0.006

SOURCE: Federal Transit Administration, *Transit Noise and Vibration Impact Assessment,* 2006.

The Federal Transit Administration has indicated that engineered concrete and masonry buildings can be exposed to vibration levels up to 0.3 inches per second, non-engineered timber and masonry buildings is 0.2 inches per second (typical of residential and institutional buildings), and buildings extremely susceptible to vibration damage is 0.12 inches per second (e.g., historical buildings). In accordance with Federal Transit Administration criteria, vibration is a function of the distance of the receiver from the vibration source (i.e., construction equipment or automobiles). As shown in Table 3-6, vibration dissipates rapidly with distance. It is estimated that construction-related building damage could occur when construction equipment would be located within 15 feet of residential or institutional buildings. The closest buildings to the project site belong to the 99th Street Elementary School and are located approximately 25 feet from the construction fence line. All the adjacent residential buildings are located farther from the project site than the elementary school. Vibration levels would be approximately 0.089 inches per second at 25 feet, which would be less than the thresholds established by the Federal Transit Administration. Therefore, the vibration impact would be less than significant during construction of the proposed project.

Operation

The proposed project would not create new sources of vibration. The chloramination equipment would operate in a similar manner as the existing chlorination equipment, which does not create perceptible vibration levels. Therefore, no operational vibration impact would occur.

c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

No Impact. A significant impact would occur if the proposed project would cause a substantial permanent increase in noise levels above existing ambient levels. As discussed in Section XII(a) above, operation of the proposed project would create

no new permanent sources of noise. The proposed project would not involve any additional site staff or maintenance activities beyond existing operating conditions. Chemical deliveries would be reduced from existing activity. The proposed project would not create a substantial permanent increase in noise levels above existing ambient levels. Therefore, no impact would occur.

d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

Less Than Significant Impact. A significant impact would occur if the proposed project would result in a substantial temporary or periodic increase in ambient noise levels. As discussed in Section XII(a) above, construction activities would result in temporary increases in noise levels at the project site. LADWP would implement the BMPs during project construction to control noise levels, including engine mufflers and noise blanket barriers. However, as stated previously under the Los Angeles Municipal Code, this noise limitation does not apply where compliance is technically infeasible. With implementation of these BMPs, construction noise impacts would be less than significant.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

No Impact. A significant impact would occur if the proposed project would expose people residing or working in the project area to excessive noise levels from a public airport or public use airport. As the proposed project does not include a residential component, this analysis focuses on construction worker exposure to aircraft noise. The closest airport to the project site is the Hawthorne Municipal Airport, located approximately five miles southwest of the project site. The airport noise contour map displays the Community Noise Equivalent Level (CNEL) out to 65 dBA.[36] The airport noise exposure contours demonstrates that the project site is located outside of the 65 dBA level; therefore, airport noise levels would be lower than construction noise level generated by construction equipment.[37] Therefore, no impacts related to exposing people working in the project area to excessive noise levels from a public airport or public use airport would occur.

f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

No Impact. A significant impact would occur if the proposed project would expose people residing or working in the project area to excessive noise levels from a private airstrip. The project site is not located within 10 miles of a private airstrip, and noise levels generated at private airports are not audible at the project site. Therefore, the proposed project would not expose people residing or working in the project area to excessive noise levels from a private airstrip, and no impact would occur.

[36] CNEL is an average sound level during a 24-hour period. In general, CNEL is within 2-dBA of the L_{eq}.

[37] 14 CFR Part 150 Airport Noise and Land Use Compatibility Study for Hawthorne Municipal Airport, website: http://hawthornenoise.airportstudy.com/files/2013/01/Chap3_20120331.pdf. Accessed August 26, 2013.

XIII. POPULATION AND HOUSING

Would the project:

a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

No Impact. The proposed project does not include construction or operation of any residential or commercial land uses, and therefore, would not result in a direct population increase from construction of new homes or businesses. The proposed project would construct a chloramination station to provide chloramination disinfection to the groundwater supply and ensure the water supply complies with the federal drinking water regulations. Therefore, the proposed project would not result in indirect population growth. No impact to population growth would occur.

b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?

No Impact. All construction activity would occur within the existing 99th Street Wells Pumping Station complex. The proposed project would not require the removal of existing housing. Therefore, implementation of the proposed project would not impact the number or availability of existing housing in the area, and would not necessitate the construction of replacement housing elsewhere. No impact would occur.

c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

No Impact. As discussed in Section XIII(b) above, construction would occur within the existing 99th Street Wells Pumping Station complex. There are currently no residential uses on the project site and no persons would be displaced as a result of implementation of the proposed project. Construction of replacement housing would not be necessary, and no impact would occur.

XIV. PUBLIC SERVICES

a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

i) Fire protection?

No Impact. Fire protection services in the City are provided by LAFD. There are two LAFD Fire Stations located within one mile of the project site: Fire Station 64 located at 118 West 108th Street, and Fire Station 65 located at 1801 East Century Boulevard. As the proposed project would serve existing customers; it would not generate population growth. Furthermore, no new habitable structures would be built as part of the proposed project. Therefore, construction and operation of the proposed project would not require the

construction of additional fire protection services or facilities or expansion of existing facilities. No impact would occur.

ii) Police protection?

No Impact. The City of Los Angeles Police Department (LAPD) is the local law enforcement agency responsible for providing police protection services in the City. The closest LAPD Community Police Station is located at 145 West 108th Street and is within one mile of the project site. As previously stated, the proposed project would not generate population growth. Therefore, construction and operation of the proposed project would not require the construction of additional police protection services or facilities or expansion of existing police facilities. No impact would occur.

iii) Schools?

No Impact. The proposed project does not include development of any residential uses, and no increase in residential population would occur. No new students would be generated, and no increase in demand for local schools would result. Therefore, construction and operation of the proposed project would not require the construction of additional school facilities or expansion of existing facilities. No impact would occur.

iv) Parks?

No Impact. Residential developments typically have the greatest potential to result in impacts to parks since these types of developments generate a permanent increase in residential population. As previously stated, the proposed project does not include development of any residential uses and would not generate any new permanent residents that would increase the demand for local and regional park facilities. Therefore, no impact to parks would occur.

v) Other public facilities?

No Impact. The proposed project does not include development of residential or commercial uses and would not increase the demand for other public facilities. The proposed project would not result in indirect population growth, which could increase demand for other public facilities. No impact to other public facilities would occur.

XV. RECREATION

Would the project:

a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

No Impact. The proposed project would construct a chloramination station on the existing LADWP 99th Street Wells Pumping Station complex. Construction and operation of the proposed project would not generate new permanent residents that would increase the use of existing parks and recreational facilities. Therefore,

substantial physical deterioration of these facilities would not occur or be accelerated with implementation of the proposed project. No impact would occur.

b) Include recreational facilities or require construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

No Impact. The proposed project does not include development of any residential uses and, thus, would not generate new permanent residents that would increase the demand for recreational facilities. Further, the proposed project would serve existing customers and would not promote or indirectly induce new development that would require the construction or expansion of recreational facilities. Therefore, no impact would occur.

XVI. TRANSPORTATION/TRAFFIC

Would the 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?

Less Than Significant Impact. This section evaluates the existing and future (cumulative) traffic conditions surrounding the proposed project and potential impacts to the study roadway segments associated with implementation of the proposed project. A copy of the traffic memorandum is included as Appendix C of this document.

The Critical Movement Analysis Planning methodology for the analysis of traffic operating conditions at signalized intersections was used. The impact analysis is based on signalized intersections during construction and the generalized application of volume-to-capacity (V/C) calculations and levels of service (LOS). Los Angeles Department of Transportation level of service definitions are provided in Table 3-7.

Table 3-7 Level of Service Definitions

LOS	Interpretation	Signalized Intersection Volume to Capacity Ratio
A	Excellent operation. All approaches to the intersection appear quite open, turning movements are easily made, and nearly all drivers find freedom of operation.	0.000 - 0.600
B	Very good operation. Many drivers begin to feel somewhat restricted within platoons of vehicles. This represents stable flow. An approach to an intersection may occasionally be fully utilized and traffic queues start to form.	0.601 - 0.700
C	Good operation. Occasionally backups may develop behind turning vehicles. Most drivers feel somewhat restricted.	0.701 - 0.800
D	Fair operation. There are no long-standing traffic queues. This level is typically associated with design practice for peak periods.	0.801 - 0.900
E	Poor operation. Some long standing vehicular queues develop on critical approaches.	0.901 - 1.000
F	Forced flow. Represents jammed conditions. Backups from locations downstream or on the cross street may restrict or prevent movements of vehicles out of the intersection approach lanes; therefore, volumes carried are not predictable. Potential for stop-and-go type traffic flow.	Over 1.000

SOURCE: Highway Capacity Manual, Special Report 209, Transportation Research Board, Washington D.C., and Interim Materials on Highway Capacity, NCHRP Circular 212,

Construction of the proposed project would generate approximately 198 net new daily weekday trips, with approximately 28 net new a.m. peak-hour trips and 28 net new p.m. peak-hour trips. The future traffic condition with peak construction traffic generated by the proposed project is shown in Table 3-8.

Table 3-8 Future with Project Conditions – Intersection Level of Service

Study Intersections		Future with Project			
		AM Peak Hour		PM Peak Hour	
		V/C or Delay	LOS	V/C or Delay	LOS
1	Central Avenue and Century Boulevard	0.856	D	0.938	E
2	Central Avenue and 108th Street (West Leg)	0.297	A	0.504	A
3	Central Avenue and 108th Street (East Leg)	0.266	A	0.473	A
4	Central Avenue and Imperial Highway	0.561	A	0.716	C
5	Central Avenue and I-105 Freeway WB On/Off Ramps	0.531	A	0.620	B
6	Central Avenue and I-105 Freeway EB On/Off Ramps	0.523	A	0.608	B

SOURCE: KOA Corporation, September 2013.

As shown in Table 3-8, construction of the proposed project would result in temporary, localized increases in traffic volumes associated with construction activities. Five of the six study intersections would continue to operate at LOS D or better during the a.m. and p.m. peak hours. The Central Avenue and Century Boulevard intersection is expected to operate at LOS E during the p.m. peak hour. Project construction would worsen operations within LOS E at that location, but not to an extent that would be considered significant under City of Los Angeles traffic study guidelines. Remaining capacity is still available with LOS E conditions.

The sidewalk directly west of and adjacent to the project site would be temporarily closed to pedestrians for the duration of construction. Parking along this section would also be temporarily restricted for the duration of construction activities. A flag person would direct pedestrian and vehicular traffic whenever equipment goes in and out of the project site.

Additionally, as discussed in Section 1.7, LADWP would require a construction worksite traffic control plan and safety program, consistent with federal and state requirements, to further reduce any potential temporary construction impacts at the project site. Implementation of the required construction BMP would ensure that impacts associated with performance of the circulation system would be less than significant.

Operation

Operation of the proposed project would not cause any increase in traffic in relation to the existing traffic load and capacity of the street system. Following completion of construction, the proposed project would not generate additional traffic. Therefore, the proposed 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?

No Impact. Project-related traffic impacts would occur during construction activities only. No traffic impacts would occur during operation of the proposed project. The County of Los Angeles Congestion Management Program level of significance thresholds are not intended to be applied to construction activities. As such, the proposed project would not exceed the significant impact thresholds defined by the County's Congestion Management Program. The proposed project would not generate any new measurable and regular vehicle trips during project operation, and no impact would occur.

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?

No Impact. The proposed project would not result in a change in air traffic patterns. Construction and operation of the proposed project would not generate air traffic. Further, the proposed project would not include any high-rise structures that could act as a hazard to aircraft navigation. No impact would occur.

d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

No Impact. The proposed project would be constructed within the existing LADWP 99th Street Wells Pumping Station complex. No design changes to the existing roadways or use of roadways would occur. Therefore, no impact related to an increase in hazards due to a design feature or incompatible uses would occur.

e) Result in inadequate emergency access?

No Impact. It is not anticipated that roadway or lane closures would be necessary and the operation of existing roadways would be preserved throughout construction. All construction and operational activity would occur within the project site. Therefore, no impact to roadways would occur that would result in inadequate emergency access.

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?

Less Than Significant Impact. The proposed project would be constructed within the existing LADWP 99th Street Wells Pumping Station complex. No changes to the existing roadways or use of roadways would occur. However, the sidewalk directly west of and adjacent to the project site would be temporarily closed for the duration of construction. Parking along this section would also be temporarily restricted for the duration of construction activities. A flag person would direct pedestrian and vehicular traffic whenever equipment goes in and out of the project site. A construction worksite traffic control plan and safety program, consistent with federal and state requirements would be prepared to further reduce any potential temporary construction impacts at the project site. Implementation of the required construction BMP would ensure that impacts would be less than significant.

Operation of the proposed project would not cause any changes related to public transit, bicycle, or pedestrian facilities. Therefore, no operational impacts would occur.

XVII. UTILITIES AND SERVICE SYSTEMS

Would the project:

a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

Less Than Significant Impact. The proposed project involves the changeover from chlorine to chloramine disinfection at the existing 99th Street Wells Pumping Station complex to comply with Stage 2 DDBPR drinking water regulations. As discussed above, a SWPPP would be prepared for the proposed project that would specify appropriate BMPs to control runoff from the project site during construction. Additionally, any wastewater discharged by the proposed project must comply with National Pollutant Discharge Elimination System requirements. Construction activities would comply with all applicable wastewater treatment requirements of the Regional Water Quality Control Board. Therefore, implementation of the required BMP would ensure that the construction impact to water quality would be less than significant.

During project operation, wastewater from the residual analyzer and water softening systems would be collected and conveyed through the waste line to the existing on-site sewer line for the 99th Street Wells Pumping Station complex. The proposed project would include measures to capture and infiltrate storm water for groundwater recharge or for reuse on-site by directing runoff into pervious areas

and reducing impervious areas. Therefore, the long-term impact to water quality would be less than significant.

b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

Less Than Significant Impact. The proposed project involves the changeover from chlorine to chloramine disinfection at the existing 99th Street Wells Pumping Station complex to comply with Stage 2 DDBPR drinking water regulations. No new or expanded water or wastewater treatment facilities would be required due to implementation of the proposed project. The construction and operational impacts resulting from the change in treatment processes is described throughout this Initial Study. The impacts would be less than significant or no impact would occur.

c) Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

Less Than Significant Impact. The proposed project involves the changeover from chlorine to chloramine disinfection at the existing 99th Street Wells Pumping Station complex to comply with Stage 2 DDBPR drinking water regulations. As discussed in Section IX(e) above, implementation of the proposed project would result in the removal of a portion of the project site's permeable surface. Thus, no substantial increase in the amount of runoff from the project site is anticipated, and the proposed project would not require or result in the construction or expansion of additional storm water drainage facilities. The impact would be less than significant.

d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?

No Impact. Local groundwater supplies have historically been an integral part of the water supply for the City of Los Angeles. LADWP is entitled to extract 15,000 acre-feet per year of groundwater from the Central Basin. The proposed project involves the changeover from chlorine to chloramine disinfection at the existing 99th Street Wells Pumping Station complex to comply with Stage 2 DDBPR drinking water regulations. The proposed project would not change the amount of groundwater extraction at the 99th Street Pumping Station beyond LADWP's existing entitlements. No new water supplies would be required to serve the project site. Therefore, no impact to water supply would occur.

e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

No Impact. Wastewater that is produced on-site would be collected and conveyed through the waste line to the existing site sewer line for the 99th Street Wells Pumping Station complex. No increase in wastewater generation is anticipated as a result of the changeover from chlorine to chloramine disinfection. Therefore, no additional demand for wastewater treatment would be required. No impact to wastewater treatment capacity would occur.

f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?

Less Than Significant Impact. Construction activities would generate construction waste, such as excavation debris. As discussed in Section 1.7, 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. These measures would minimize the amount of construction debris generated by the proposed project that would need to be disposed of in an area landfill. Any non-recyclable and hazardous construction waste generated would be disposed of at a landfill approved to accept such materials. Project operation would be similar to the existing chlorination activities currently occurring at the 99th Street Wells Pumping Station complex. No additional sources of solid waste are anticipated due to the changeover from chlorine to chloramine disinfection. The long-term impact would be less than significant.

g) Comply with federal, state, and local statutes and regulations related to solid waste?

Less Than Significant Impact. The proposed project would comply with federal, state, and local statutes and regulations related to solid waste. As discussed in Section XVII(f) above, construction debris would be recycled or disposed of according to local and regional standards. All materials would be handled and disposed of in accordance with existing local, state, and federal regulations. Compliance with existing regulations would ensure a less than significant impact.

XVIII. MANDATORY FINDINGS OF SIGNIFICANCE

a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?

Less Than Significant Impact. The proposed project would construct a chloramination station within an existing urbanized LADWP pumping station complex in South Los Angeles. Only weedy vegetation and grasses would be removed during construction. Therefore, no impact to sensitive vegetation communities or sensitive plant species would occur. No impact to biological resources would occur.

As discussed in Section V(a) above, two buildings within the project vicinity were determined to be 45 years of age or older. However, neither the 99th Street Wells Pumping Station or the 99th Street Elementary School meet the criteria to be eligible for listing on the California Register of Historic Resources (see Appendix B). The resources do not meet the level of significance to meet CRHR criteria 1 through 4. Neither resource has specific associations with any historic events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States (Criterion 1); has

specific associations with a person whose life was important to local, California, or national history (Criterion 2); embodies the distinctive characteristics of a type, period, or method of construction or represent the work of a master, or possess high artistic values (Criterion 3); or yield information important in the prehistory or history of the local area, California, or the nation (Criterion 4). Impacts to historical resources would be less than significant.

b) Does the project have environmental effects that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)

Less Than Significant Impact. As discussed in Section III(c) above, the proposed project is located within the Los Angeles County portion of the South Coast Air Basin, which is designated a non-attainment area for O_3, PM_{10}, and $PM_{2.5}$. In order to maintain attainment status of the South Coast Air Basin and comply with the State Implementation Plan, the SCAQMD has developed project-level thresholds of significance for criteria pollutants. The proposed project would not generate regional construction emissions in excess of the SCAQMD thresholds. Therefore, no cumulatively considerable impact would occur during construction. The proposed project does not include an operational component beyond existing operating conditions. Chemical deliveries would be reduced from existing activity. Therefore, no cumulatively considerable air quality impact would occur during operations.

As discussed in Section VII(a) above, GHG emissions contribute to the global condition known as the greenhouse effect. Because this issue is by its very nature cumulative, the California Air Resources Board established a threshold of significance and climate reduction strategies. The proposed project would generate short-term emissions of GHGs during construction. However, these emissions would be far less than the thresholds of significance. The cumulative impact would be less than significant.

As discussed in Sections XII(c) and XII(d) above, the proposed project would not require additional site staff or maintenance activities, and chemical deliveries would be reduced from existing activity. Therefore, there would be no permanent or temporary increase in ambient noise levels, and the proposed project would not result in a cumulatively considerable noise impact.

As discussed in Section XVI(a) above, the cumulative traffic analysis considered the addition of background traffic growth and other proposed projects combined with project construction traffic. Construction activities would result in less than significant impacts on project area roadways.

c) Does the project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?

Less Than Significant Impact. As discussed in Section VIII(a) above, long-term operation of the proposed project would involve the transport, storage, use, or disposal of hazardous materials. The current 12.5 percent sodium hypochlorite system would be replaced with on-site generation of 0.8 percent sodium

hypochlorite. Only LAS and salt would be delivered to and stored on-site during project operation and all 12.5 percent sodium hypochlorite deliveries to the project site would cease. Additionally, implementation of safety features described in Section 1.6, including containment areas and sodium hypochlorite generation unit ventilation fans would minimize the risk for spills and exposure to sensitive receptors. Therefore, project operation related to reasonably foreseeable upset or accident conditions would pose a less than significant hazard to the public or the environment.

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SECTION 4
LIST OF PREPARERS

LEAD AGENCY

Los Angeles Department of Water & Power
111 N. Hope Street, Room 1044
Los Angeles, CA 90012

PREPARED BY

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

Charles C. Holloway, Manager of Environmental Planning and Assessment
Hal Messinger, Environmental Project Manager
Stephanie Eatinger, Environmental Project Manager

TECHNICAL ASSISTANCE PROVIDED BY

Melissa Hatcher, Project Director (AECOM)
Fareeha Kibriya, Project Director (AECOM)
Kathalyn Tung, Project Manager (AECOM)
Erin Murphey, Environmental Analyst (AECOM)
Heather Gibson, Historic Archaeologist (AECOM)
Trina Meiser, Architectural Historian (AECOM)
Linda Kry, Archaeologist (AECOM)
Marc Beherec, Archaeologist (AECOM)
Tim Harris, GIS/Graphic Specialist (AECOM)
Sam Silverman, Senior Environmental Scientist (Terry A. Hayes Associates)
Shabnam Dilmaghani, Environmental Scientist (Terry A. Hayes Associates)
Brian Marchetti, Senior Transportation Planner (KOA Corporation)
Krishna Nand, Offsite Consequences Analysis Manager (Environmental Management Professionals)

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Appendix A
Air Quality Technical Output

Construction Emission Calculations

Estimated Offroad Equipment Emissions During Construction [1]

Construction Phase	Equipment Type	Qty	Operating Hrs/WD/ equipment	Operating Hrs 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)	PM_{10} (lbs/day)	$PM_{2.5}$ (lbs/day)	CO_2 Rate (lbs/hr)	CO_2 (lbs/day)	CH_4 rate (lbs/hr)	CH_4 (lbs/day)
Phase 1: Site Preparation	Backhoe with Carrier	2	8.5	17	0.07	1.24	0.37	6.37	0.50	8.46	0.00	0.01	0.03	0.58	0.58	0.53	66.80	1,135.61	0.01	0.11
	Water Trucks [2]	1	2	2	0.14	0.27	0.76	1.51	0.96	1.92	0.001	0.00	0.05	0.11	0.11	0.10	125.09	250.18	0.01	0.02
	Subtotal Emission					*1.51*		*7.88*		*10.38*		*0.02*		*0.69*	*0.69*	*0.63*		*1,385.78*		*0.14*
Phase 2: Construction	Concrete Pump	1	8.5	8.5	0.07	0.58	0.29	2.44	0.44	3.76	0.001	0.01	0.03	0.25	0.25	0.23	49.61	421.66	0.01	0.05
	Compactor	1	8.5	8.5	0.01	0.04	0.03	0.22	0.03	0.27	0.0001	0.001	0.001	0.01	0.01	0.01	4.31	36.67	0.00	0.00
	Cranes	1	8.5	8.5	0.13	1.08	0.46	3.87	1.11	9.41	0.001	0.01	0.05	0.40	0.40	0.36	128.64	1,093.40	0.01	0.10
	Excavators	1	8.5	8.5	0.11	0.97	0.53	4.50	0.83	7.05	0.001	0.01	0.04	0.36	0.36	0.34	119.58	1,016.43	0.01	0.09
	Forklift	1	8.5	8.5	0.05	0.42	0.22	1.88	0.36	3.02	0.001	0.01	0.02	0.15	0.15	0.14	54.40	462.36	0.00	0.04
	Drill Rig	1	8.5	8.5	0.07	0.62	0.50	4.28	0.71	6.07	0.002	0.01	0.02	0.21	0.21	0.19	164.94	1,401.97	0.01	0.06
	Subtotal Emission					*3.72*		*17.19*		*29.57*		*0.05*		*1.38*	*1.43*	*1.28*		*4,432.49*		*0.34*
Phase 3: Demolition	Excavators	1	8.5	8.5	0.11	0.97	0.53	4.50	0.83	7.05	0.001	0.01	0.04	0.36	0.36	0.34	119.58	1,016.43	0.01	0.09
	Grader	1	8.5	8.5	0.14	1.16	0.60	5.09	1.08	9.18	0.001	0.01	0.05	0.46	0.46	0.42	132.74	1,128.32	0.01	0.10
	Loader	1	8.5	8.5	0.07	0.62	0.37	3.18	0.50	4.23	0.00	0.01	0.03	0.29	0.29	0.27	66.80	567.80	0.01	0.06
	Subtotal Emission					*2.75*		*12.77*		*20.46*		*0.03*		*1.11*	*1.11*	*1.02*		*2,712.55*		*0.25*
Maximum Daily Construction Offroad Emissions						***3.72***		***17.19***		***29.57***		***0.05***			***1.43***	***1.28***		***4,432.49***		***0.34***

1. Construction would take approximately 2 years to complete (begin in Fall 2014 and conclude in Fall 2016). Offroad emission factors for year 2014 would be used for a conservative analysis since older construction equipment would generate more emissions.

2. Water trucks would operate on site two hours each day at a rate of 5 mph (compliance with Rule 403).

EMFAC 2011 Onroad Emission Factors for Construction Year 2014[1]

Vehicle Type	ROG (grm/mile)	CO (grm/mile)	NOx (grm/mile)	SOx (grm/mile)	PM_{10} (grm/mile)	$PM_{2.5}$ (grm/mile)	CO_2 (grm/mile)
Haul Truck @ 30 MPH	0.37	1.56	8.68	0.00	0.13	0.12	1,892.31
Water Truck @ 30 MPH	0.37	1.56	8.68	0.00	0.13	0.12	1,892.31
Worker Vehicle[2] @30 MPH	0.07	0.33	0.55	0.00	0.06	0.05	312.16
Vendor Vehicle[3] @30 MPH	0.30	1.22	7.08	0.00	0.13	0.12	1,555.30

1. Construction would take approximately 2 years to complete (begin in Fall 2014 and conclude in Fall 2016). Onroad emission factors for year 2014 would be used for a conservative analysis since older construction equipment would generate more emissions.

2. As is estimated in CalEEMod, worker vehicle emission factors are 50/25/25 percent mix of light duty autos, light duty truck class 1 and light duty trucks.

3. As is estimated in CalEEMod, vendor vehicle emission factors are 50/50 percent mix of heavy-heavy duty trucks and medium-heavy duty trucks.

Estimated Onroad Emissions During Construction

Construction Phase	Construction Equipment Type	Round Trip/day	Trip Length/vehicle (miles)	ROG (lb/day)	CO (lb/day)	NOx (lb/day)	SOx (lb/day)	PM_{10} (lb/day)	$PM_{2.5}$ (lb/day)	CO_2 (lb/day)
Phase 1: Site Prepration	Workers Commute	5	12.7	0.02	0.09	0.15	0.00	0.02	0.01	87.40
	Delivery Trucks	2	7.4	0.02	0.10	0.57	0.00	0.01	0.01	123.49
	Haul Trucks	1	20	0.03	0.14	0.77	0.00	0.01	0.01	166.87
	Total Emission			*0.08*	*0.33*	*1.49*	*0.00*	*0.04*	*0.03*	*377.76*
Phase 2: Construction	Workers Commute	20	12.7	0.08	0.37	0.61	0.00	0.06	0.06	349.61
	Delivery Trucks	8	7.4	0.10	0.41	2.27	0.00	0.03	0.03	493.95
	Haul Trucks	25	20	0.81	3.44	19.14	0.00	0.28	0.26	4,171.85
	Total Emission			*0.99*	*4.21*	*22.02*	*0.00*	*0.38*	*0.35*	*5,015.40*
Phase 3: Demolition	Workers Commute	8	12.7	0.03	0.15	0.25	0.00	0.03	0.02	139.84
	Delivery Trucks	3	7.4	0.04	0.15	0.85	0.00	0.01	0.01	185.23
	Haul Trucks	4	20	0.13	0.55	3.06	0.00	0.05	0.04	667.50
	Total Emission			*0.20*	*0.85*	*4.16*	*0.00*	*0.08*	*0.08*	*992.57*
Maximum Daily Construction Onroad Emissions				***0.99***	***4.21***	***22.02***	***0.00***	***0.38***	***0.35***	***5,015.40***

Fugitive Dust Emissions from Excavation Year 2014

	Construction Activity	
	Excavation	24,800 Square Feet[a]
Excavation Schedule	**30 days[a]**	

Fugitive Dust Parameters

Vehicle Speed (mph)[b]	Vehicle Miles Traveled
3	0.01

Fugitive Dust Stockpiling Parameters

Silt Content[c]	Precipitation Days[d]	Mean Wind Speed Percent[e]	TSP Fraction	Area[f] (acres)
6.9	10	5	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	4.9	7.9	300	25,000

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)x (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	0.0200	0.0042
Material Handling	61	0.0008	0.0002
Dragline	61	0.0213	0.0012
Total		**0.042**	**0.006**

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 LAX 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 300 cubic yards of dirt handled [(300 cyd x 2,500 lb/cyd)/30 days = 25,000 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 $PM_{2.5}$.

Greenhouse Gas Emission Calculations

Estimated Total GHG Emissions During Construction[1]

Construction Phase	Emission Source	CO_2 (MT)	CH_4 (MT)	CO_{2e} (MT)
Phase 1: Site Preparation	Offsite-Equipment	19	0.002	19
	On-road Commute	5	0.00	5
	Workers Commute	1	0.00	1
	Delivery Trucks	2	0.00	2
	Haul Trucks	2	0.00	2
	Subtotal Emission	24	0.00	24
Phase 2: Construction	Offsite-Equipment	1,207	0.09	1,209
	On-road Commute	1,365	0.00	1,365
	Workers Commute	95	0.00	95
	Delivery Trucks	134	0.00	134
	Haul Trucks	1,136	0.00	1,136
	Subtotal Emission	2,572	0.09	2,574
Phase 3: Demolition	Offsite-Equipment	25	0.00	25
	On-road Commute	9	0.00	9
	Workers Commute	1	0.00	1
	Delivery Trucks	2	0.00	2
	Haul Trucks	6	0.00	6
	Subtotal Emission	34	0.00	34
Total GHG During Construction		**2,630**	**0.10**	**2,632**
Amortized GHG				**88**

1. Construction GHG emissions are amortized over 30 years based on the Greenhouse Gas CEQA Significance Threshold Stakeholder Working Group # 13, August 26, 2009, SCAQMD.

Construction Schedule

5	day/wk
4	wk/month
6	phase 1: week
30	Phase 2:month
1	Phase 3: month
2204	lb/MT

Appendix B
Cultural Resources Assessment

CULTURAL RESOURCES ASSESSMENT
99TH STREET WELLS CHLORAMINATION STATION, WATTS, CITY OF LOS ANGELES, CALIFORNIA

Prepared for:
Los Angeles Department of Water and Power
Environmental Services
111 North Hope Street, Room 1044
Los Angeles, California 90012

Authors:
Heather Gibson, Ph.D., RPA
Marc A. Beherec, Ph.D., RPA

Prepared by:
AECOM
515 South Flower Street, 8th Floor
Los Angeles, California 90071

With Contributions by:
Trina Meiser, M.A.
Linda Kry

August 2013

U.S.G.S. Quadrangles: Inglewood, South Gate
Acreage: 0.6 acres

Keywords: *Gabrielino*, Tajuata, Rancho Tajauta, Watts, 99th Street Elementary School, 99th Street Wells Pumping Station

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EXECUTIVE SUMMARY

AECOM was retained by the City of Los Angeles Department of Water and Power (LADWP) to conduct a Phase I cultural resources investigation to identify potential impacts to cultural resources in compliance with the California Environmental Quality Act for the 99th Street Wells Chloramination Station project. LADWP proposes to build a chloramination station within the existing 99th Street Wells Pumping Station in the Watts community of the City of Los Angeles. The proposed project is part of LADWP's program to comply with the federal Stage 2 Disinfection and Disinfectants Byproducts Rule through a systemwide conversion from chlorination to chloramination of the in-City potable water supply. The proposed project would include the installation of all necessary equipment and structures needed to facilitate on-site sodium hypochlorite generation, ammoniation, injection, and monitoring. The chloramination station would be a single-story structure designed in a style similar to the existing facilities. The piping would be located below the ground and would not be visible following the completion of construction. The existing chlorination building, which is currently located in the central portion of the project site, would be demolished once the chloramination station is constructed and operational.

The 99th Street Wells Pumping Station is located at 9880 Wadsworth Avenue in the Watts community of the City of Los Angeles. It is located at the intersection of Wadsworth Avenue and 99th Street. The project site is bound by Wadsworth Avenue to the west, a utility right-of-way to the north, and 99th Street Elementary School to the east and south. The project site is located on the following U.S. Geological Survey (USGS) 7.5-minute quadrangle maps: Inglewood (USGS 1981a) and South Gate (USGS 1981b). The project site is in Section 32 of Township 2 South, Range 13 West. The project site encompasses approximately 24,800 square feet (0.6 acre).

The investigation included a records search at the South Central Coastal Information Center housed at California State University, Fullerton. One resource, the Boulder Dam – Los Angeles 287.5 kV Transmission Line (P-19-188983), has previously been recorded within 0.5 mile of the project site. No cultural resources have previously been recorded within the project footprint. The records search revealed that four cultural resource investigations were previously conducted within a 0.5-mile radius of the project site. No California Historical Landmarks or Los Angeles Historic-Cultural Monuments are located within 0.5 mile of the project site.

A Sacred Lands File search conducted for this project by the Native American Heritage Commission (NAHC) did not result in the identification of any documented sacred lands within 0.5 mile of the proposed project. A Native American contact program was implemented, consisting of an information letter, response form, and map, which were sent to local Native American representatives identified by the NAHC. No responses have been received to date; results will be reported following the conclusion of the 30-day comment period.

As part of the cultural resources field investigation, an intensive survey for historic architectural resources that had the potential to be impacted by the project was conducted on July 23, 2013. Resources that were or appeared to be 45 years or older were recorded with digital photographs and evaluated under criteria for listing in the California Register of Historical Resources

(CRHR). The survey identified two resources that appear 45 years or older: the 99th Street Wells Pumping Station and the 99th Street Elementary School. These resources do not meet the criteria to be eligible for the CRHR. There are no significant historical resources within the area of potential effects.

A pedestrian survey was conducted as part of this assessment to identify the presence of any archaeological resources in the proposed project footprint. No archaeological resources were identified as the result of this survey. Based on the results of this study, there is low potential that archaeological resources will be encountered during ground disturbing activities for the proposed project. If archaeological resources are encountered during ground disturbing activities, LADWP will contact a qualified archaeologist to evaluate and determine appropriate treatment for the resource in accordance with California Public Resource Code (PRC) Section 21083.2(i). If any Native American cultural material is encountered within the project site, consultation with interested Native American parties will be conducted to apprise them of any such findings and solicit any comments they may have regarding appropriate treatment and disposition of the resources. If human remains are discovered, work in the immediate vicinity of the discovery will be suspended and the Los Angeles County Coroner contacted. If the remains are deemed Native American in origin, the Coroner will contact the NAHC and identify a Most Likely Descendant (MLD) pursuant to Public Resources Code Section 5097.98 and California Code of Regulations Section 15064.5.

INTRODUCTION

This document reports a Phase I cultural resources assessment in connection with the 99th Street Wells Chloramination Station Project (project) in the Watts community of the City of Los Angeles. The City of Los Angeles Department of Water and Power (LADWP) proposes to build a new chloramination station in a grassy area immediately south of its existing 99th Street Wells Pumping Station complex. The proposed project is part of LADWP's program to comply with the federal Stage 2 Disinfection and Disinfectants Byproducts Rule through a system-wide conversion from chlorination to chloramination of the in-City potable water supply. The chloramination station would be a single-story structure of a style similar to the existing facilities. The piping would be located below the ground and would not be visible following the completion of construction. The existing chlorination building, which is currently located in the central portion of the project site, would be demolished once the chloramination station is constructed and operational. This Phase I cultural resources assessment was prepared in support of an Initial Study/Mitigated Negative Declaration, in accordance with the California Environmental Quality Act (CEQA), Public Resources Code Section 21000 et seq. and the State CEQA Guidelines, California Code of Regulations Section 15000 et seq.

The 99th Street Wells Pumping Station is located at 9880 Wadsworth Avenue in the Watts community of the City of Los Angeles. It is located at the intersection of Wadsworth Avenue and 99th Street. The project site is bound by Wadsworth Avenue to the west, a utility right-of-way to the north, and 99th Street Elementary School to the east and south. The project site is located on the following California U.S. Geological Survey (USGS) 7.5-minute quadrangle maps: Inglewood (USGS 1981a) and South Gate (USGS 1981b). The project site is in Section 32 of Township 2 South, Range 13 West. The project site encompasses approximately 24,800 square feet (0.6 acre).

PROJECT PERSONNEL

AECOM personnel involved in the cultural resources assessment are as follows: Heather Gibson, Ph.D., RPA, served as principal investigator and contributed to the report; Marc A. Beherec, Ph.D., RPA, contributed to the report and conducted archaeological survey; Linda Kry contributed to the report and conducted archival research and archaeological survey; M. K. Meiser, M.A., conducted evaluations of historic architectural resources; Tim Harris provided graphics and geographic information system support; and Christy Dolan, M.A., RPA, provided senior review. Resumes of key personnel are included in Appendix A.

REPORT ORGANIZATION

This report is organized following the *Archaeological Resource Management Reports (ARMR): Recommended Contents and Format* guidelines, (California Office of Historic Preservation 1990). These guidelines provide a standardized format and suggested report content, scaled to the size of the project. First, a project description, including project location, proposed

undertaking, and construction schedule, is provided. Next, the environmental and cultural settings are presented along with a detailed history of the project site. The research methods are then presented, followed by the results of the archival research, Native American contact program, and field survey. The final section summarizes the results of the cultural resources assessment and provides recommendations for resource eligibility and further work.

PROJECT DESCRIPTION

PROJECT LOCATION AND SETTING

The proposed project would be located within the existing 99th Street Wells Pumping Station complex property, which is located in the Watts community of the City of Los Angeles (Figure 1). The property is located at 9880 Wadsworth Avenue, at the intersection of Wadsworth Avenue and 99th Street (Figure 2). The project site is bound by Wadsworth Avenue to the west, a utility right-of-way to the north, and 99th Street Elementary School to the east and south. The project site is adjacent to residential single-family homes west of Wadsworth Avenue.

The project site is located on the following USGS 7.5-minute quadrangle maps: Inglewood (USGS 1981a) and South Gate (USGS 1981b). The project site is in Section 32 of Township 2 South, Range 13 West. The project site encompasses approximately 24,800 square feet (0.6 acre).

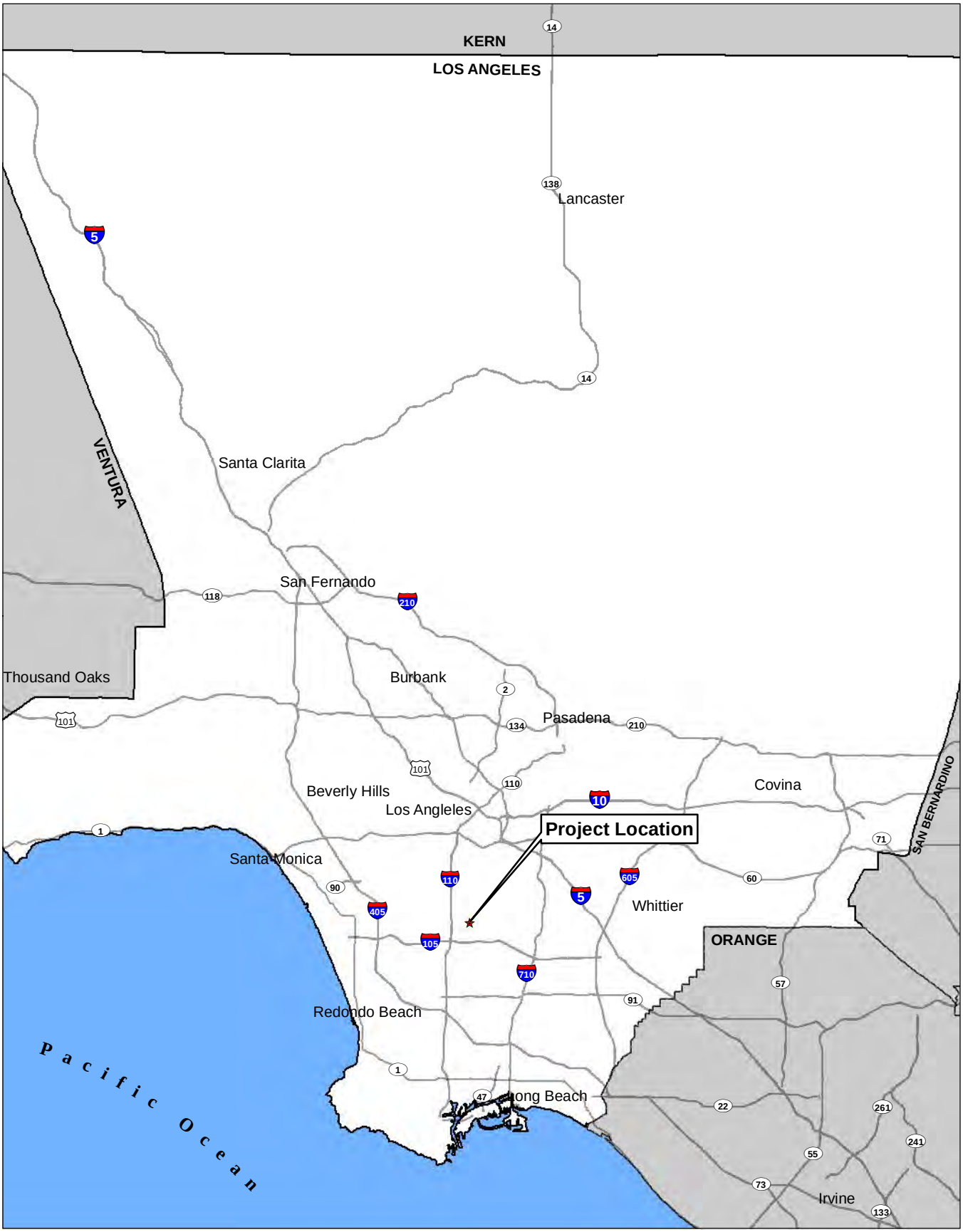
PROPOSED PROJECT

The new chloramination facility would be constructed within the LADWP-owned 99th Street Wells Pumping Station complex and would include all necessary equipment and structures needed to facilitate on-site sodium hypochlorite generation, ammoniation, injection, and monitoring. The new appurtenances would enable chloramination of groundwater pumped by the 99th Street Wells Pumping Station. The proposed project would include construction of the chloramination station and associated piping in an undeveloped, grassy area in the southeast corner of the project site (Figures 3 and 4). The chloramination station would be a single-story structure designed in a style similar to the existing facilities. The piping would be located below ground and would not be visible following the completion of construction. The existing chlorination building, which is currently located in the central portion of the project site, would be demolished once the chloramination station is constructed and operational. Additional fencing would also be installed to secure the new chloramination station.

Construction Schedule and Scenario

Construction of the proposed project is anticipated to begin in fall 2014 and take approximately 2 years to complete, concluding in fall 2016.

To accomplish all the elements of the proposed project, the delivery of construction equipment, materials, and supplies to the 99th Street Wells Pumping Station complex would be required. Vehicles required for the project construction, including backhoes, grader, compactor, concrete truck, drill rig, excavators, crane, front end loader, forklifts, and water trucks would generally be driven or delivered to the site once and remain on-site for the duration of construction for which they were required. Recurrent deliveries would include material and components required for the chloramination station construction, pipe segments for new water line connections, and concrete for various elements of the project. The excavation and demolition of the chlorination station on

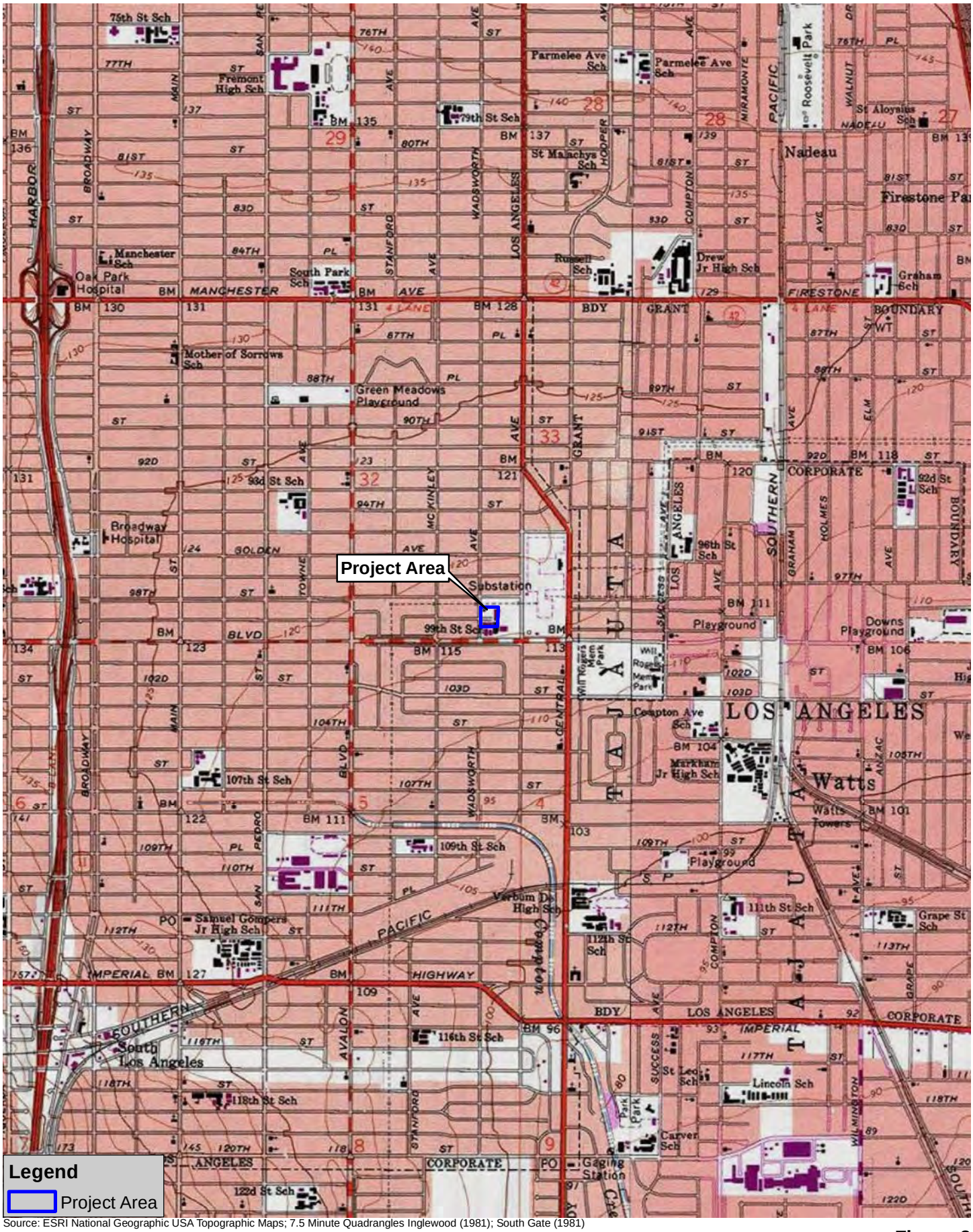


Source: ESRI (2012)

0 5 10 20 Miles

N

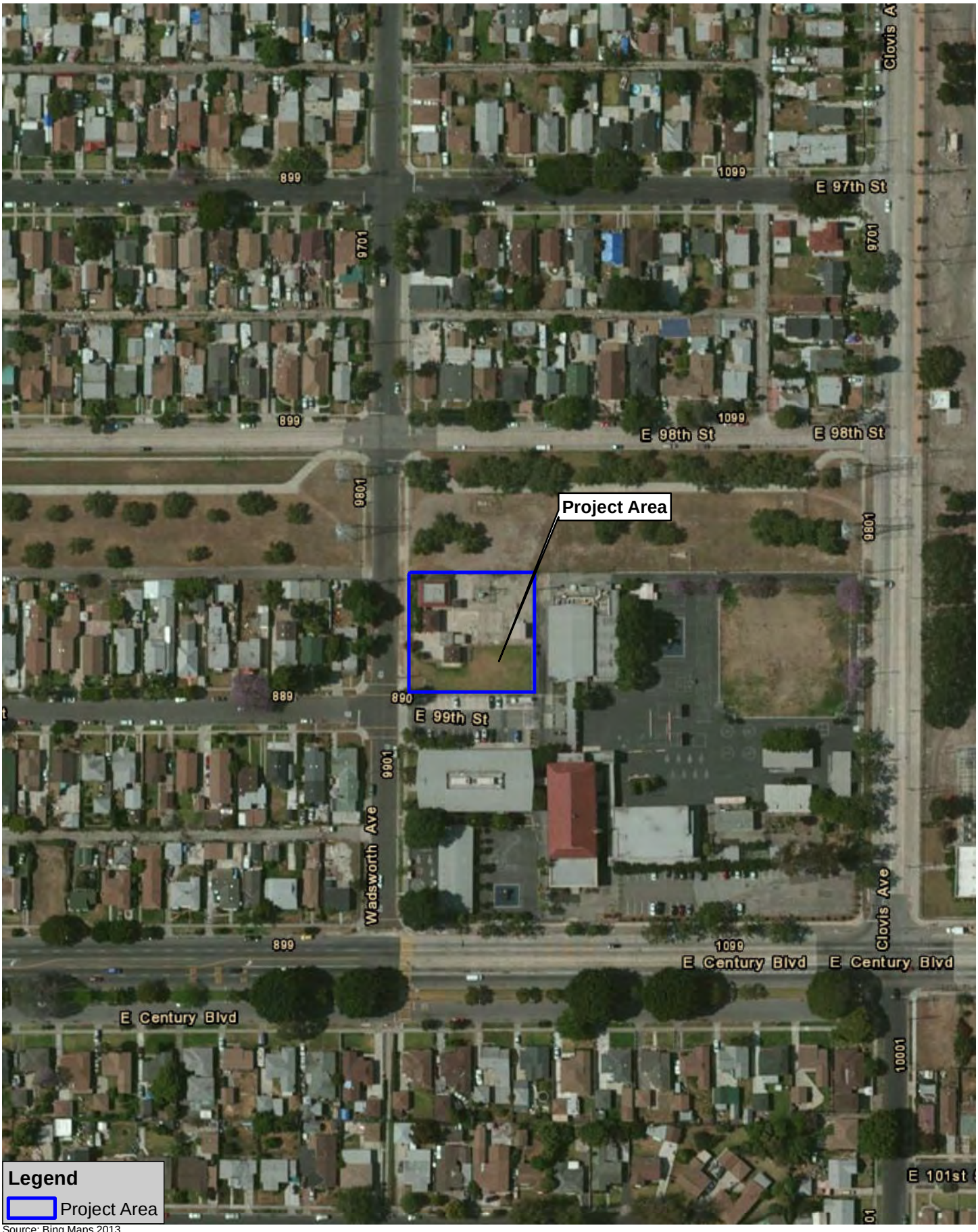
Figure 1
Regional Location Map



Source: ESRI National Geographic USA Topographic Maps; 7.5 Minute Quadrangles Inglewood (1981); South Gate (1981)

Figure 2

Project Location Map



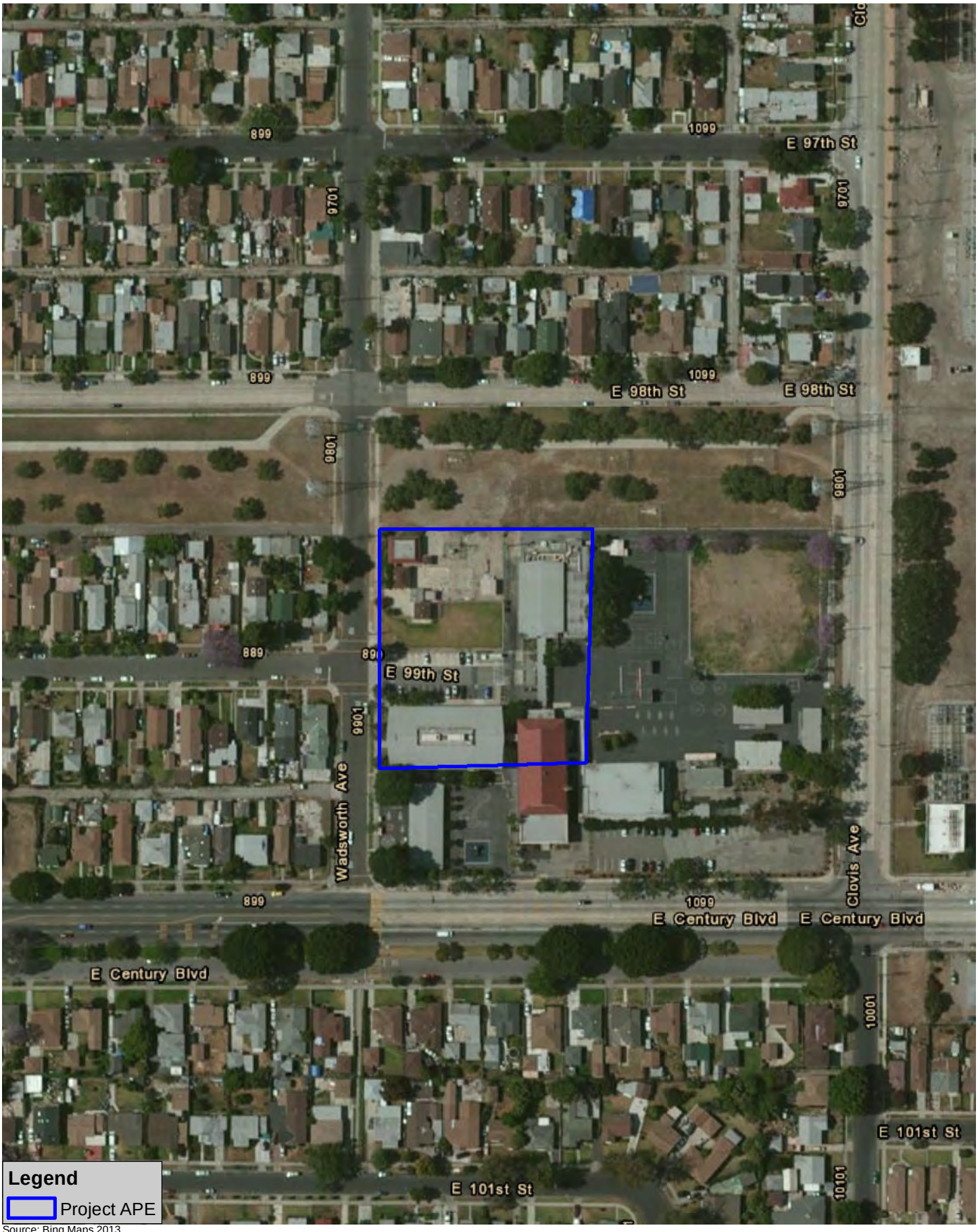
Source: Bing Maps 2013

0 200 400 Feet

N

Figure 3

Project Area Map



Source: Bing Maps 2013

0 200 400 Feet

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Figure 4

Project APE Map

the project site would also create truck trips for transferring the excavation material and removing the debris from the project site for off-site disposal. The chloramination station construction would create up to approximately 1,700 cubic yards of excavated material and approximately 230 cubic yards of demolition material and debris. Overall, approximately 200 total off-site truck trips may be required.

SETTING

ENVIRONMENTAL AND GEOLOGICAL SETTING

The project is located in the central Los Angeles Basin, which is formed by the Santa Monica Mountains to the northwest, the San Gabriel Mountains to the north, and the San Bernardino and San Jacinto Mountains to the east. The basin was formed by alluvial and fluvial deposits derived from these surrounding mountains (Yerkes et al. 1965). The floodplain forest of the Los Angeles Basin formed one of the most biologically rich habitats in Southern California. Willow, cottonwood, and sycamore, and a dense underbrush of alder, hackberry, and shrubs once lined the Los Angeles River as it passed near present-day downtown Los Angeles (Gumprecht 1999). Climatically, this area is generally Mediterranean and is characterized by mild winters and moderate, dry summers with occasional storms. The project site is situated in an area designated as younger Quaternary alluvium on geologic maps (Yerkes and Campbell 2005).

CULTURAL SETTING

As a framework for discussing the potential cultural resources that may exist at the project site, the following discussion summarizes the current understanding of major prehistoric and historic developments in and around Los Angeles. This is followed by a more focused discussion of the history of the vicinity of the project site 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 earliest evidence of human occupation in the Los Angeles area dates to at least 9000 B.P. and is associated with a period known as the Millingstone Cultural Horizon (Wallace 1955; Warren 1968). Departing from the subsistence strategies of their nomadic big-game hunting predecessors, Millingstone populations established more permanent settlements. These settlements 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). Increased populations in the region necessitated the intensification of existing terrestrial and marine resources (Erlandson 1994). This was accomplished in part through the use of the circular shell fishhook on the coast, and more abundant and diverse hunting equipment. Evidence for shifts in settlement patterns has been noted 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 nonutilitarian materials were acquired, and travel routes were extended. Archaeological evidence suggests that the margins of numerous rivers, marshes, and swamps within the Los Angeles River Drainage served as ideal locations for prehistoric settlement during this period. These well-watered areas contained a rich collection of resources and are likely to have been among the more heavily traveled routes.

The Late Prehistoric period, from approximately 1500 B.P. to the mission era, is the period associated with the florescence of the contemporary Native American group known as the *Gabrielino* (Wallace 1955). Coming ashore near Malibu Lagoon or Mugu Lagoon in October of 1542, Juan Rodriguez Cabrillo was the first European to make contact with the *Gabrielino* Indians. 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) and maps produced by early explorers indicate that at least 26 *Gabrielino* villages were within proximity to known Los Angeles River courses, while an additional 18 villages were reasonably close to the river (Gumprecht 1999). Subsistence consisted of hunting, fishing, and gathering. Small terrestrial game were hunted with deadfalls and 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 acorns, 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 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. Passing through the Los Angeles area, they reached the San Gabriel Valley on August 2 and traveled west through a pass between two hills where they encountered the Los Angeles River and camped on its east bank. The river was named *El Rio y Valle de Nuestra Senora la Reina de Los Angeles de la Porciuncula*. *Gabrielino* villages are reported by early explorers to have been most abundant near the Los Angeles River, in the area north of downtown, known as the Glendale Narrows, and those areas along the river's various outlets into the sea.

Missions were established in the years that followed the Portola expedition, the fourth being the Mission San Gabriel Arcangel founded in 1771 near the present-day city of Montebello, approximately 9 miles northeast of the project site. By the early 1800s, the majority of the surviving *Gabrielino* population had entered the mission system. The *Gabrielino* inhabiting Los Angeles County were under the jurisdiction of either Mission San Gabriel or Mission San Fernando. 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).

On September 4, 1781, 12 years after Crespi's initial visit, the *Pueblo de la Reina de los Angeles* was established not far from the site where Portola and his men camped. Watered by the river's ample flow and the area's rich soils, the original pueblo occupied 28 square miles and consisted of a central square, surrounded by 12 houses, and a series of 36 agricultural fields occupying 250 acres, plotted to the east between the town and the river. By 1786, the flourishing pueblo attained self-sufficiency and funding by the Spanish government ceased (Gumprecht 1999). Fed by a steady supply of water and an expanding irrigation system, agriculture and ranching grew, and by the early 1800s the pueblo produced 47 cultigens (Gumprecht 1999).

Alta California became a state when Mexico won its independence from Spain in 1821, and Los Angeles selected its first city council the following year. 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.

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. 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 Avila, 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).

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 at Sutter's Mill in 1849 led to an enormous influx of people from other parts of the United States in the 1850s and 1860s; these "forty-niners" rapidly displaced the old rancho families. Southern California's prosperity in the 1850s was largely a result of the increased demand for cattle for meat and hides, which was created by the gold rush. Southern California was able to meet this need, and the local ranching community profited handsomely (Bell 1881:26).

Surrounded by miles of ranchos, Los Angeles was the center of a vibrant cattle industry throughout the 19th century. The city served as a trading hub for Southern California's "cow

counties," and, at mid-century, the plaza was lined with the shops and town homes of ranch owners (Robinson 1979:243). In 1860, Los Angeles County had approximately 75,000 head of cattle, 14,000 horses, and 95,000 sheep. More than 55,000 bushels of wheat, 85,000 bushels of corn, and 209,000 pounds of wool were produced annually. The county accounted for approximately two-thirds of the state's wine output, producing almost 163,000 gallons in 1860. These agricultural pursuits were essential to the local economy.

When the Southern Pacific Railroad (SPRR) extended its line from San Francisco to Los Angeles in 1876, newcomers poured into Los Angeles and the population nearly doubled between 1870 and 1880. The completion of the second transcontinental line, the Atchison, Topeka and Santa Fe, took place in 1886 causing a fare war that drove fares to an unprecedented low. More settlers continued to head west and the demand for real estate skyrocketed. As real estate prices soared, land that had been farmed for decades outlived its agricultural value and was sold to become residential communities. The subdivision of the large ranchos took place during this time. The city's population rose from 11,000 in 1880 to 50,000 by 1890 (Meyer 1981:45).

The tremendous influx of people necessitated an increase in public transportation options, and, in the final years of the 19th century, passenger rail lines proliferated. Beginning with the Spring and Sixth Street Railway Company in 1873, dozens of rail lines appeared throughout the Los Angeles area. The Los Angeles Pacific Company began improving and extending interurban rail lines in earnest in 1906, creating impressive new switching stations and tunnels designed to shorten travel time and increase efficiency (Electric Railway Historical Association 2008). The majority of these lines were subsequently incorporated into the Pacific Electric Company. As a result of growing population and the increasing diversion of water, the once plentiful water supply provided by the Los Angeles River began to dwindle. The extensive floodplain dried up; the richly vegetated landscape had been cleared for construction materials and fuel; and the tens of thousands of head of cattle, horses, and sheep had decimated the local grasses. A number of waterworks projects were underway during the second half of the 19th century in an effort to increase water flow and water retention. These projects included the construction of Echo Park Reservoir, the Silver Lake Reservoir, and the further expansion of the *zanja* irrigation ditches. When these measures proved insufficient, a more permanent solution to Los Angeles' water shortage was sought. 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 5-year project, completed in 1913, employed the labor of more than 5,000 men and brought millions of gallons of water into the San Fernando (now Van Norman) Reservoir (Gumprecht 1999). Now able to offer water and sewer service at a grand scale, many smaller cities were voluntarily incorporated by Los Angeles (Robinson 1979:244).

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 Vicinity: Watts

The Watts neighborhood lies within former *Gabrielino* territory, but there is little historical record of the Native American presence in Watts. The first area land grant was known as Rancho la Tajuata, or Tajauta. There is some debate regarding the origin of this name. An early history of the neighborhood claims the area was settled by a Spanish family named Tajuata who were "the real pioneers" of the area (*Watts Advertiser-Review* 1938). Other sources suggest the name is Spanish and means "low bluffs" or "the low bluffs on the North" (Collins 1980:38; Ray 1985:4).

A. L. Kroeber (1925:897) suggested that Tajuata is a Hispanicization of a *Gabrielino* place name. Harrington interviewed a member of the Lugo family in South San Gabriel who claimed that Tajuata belonged to the Lugos, that the site was known to them as El Rancho Nuevo, and that Tajuata was a Native American name. The Lugos did in fact occupy Rancho San Antonio, which bordered Tajuata. Based on this, McCawley (1996:58) suggests that the site is Huutnga, a *Gabrielino* rancheria located at a place called "Ranchito de Lugo." Huutnga may mean "in the Willows," a name similar to Willowbrook, the name given to part of the land grant by later settlers. However, while Tajuata may seem like an obvious Hispanicization of Huutnga, it is more likely that Huutnga is located at the Rancho Potrero de Filipe Lugo, in the Whittier Narrows area.

Rancho Tajuata is tied historically to the prominent Californio Avila (or Abila) family. The Avila family worked land in the project vicinity as early as the Spanish period, possibly as early as 1820 (Ray 1985:4). Governor Manuel Micheltorena granted 1 square league of land, including what would become Watts and Willowbrook, to Anastasio Avila in 1843. The grant was bounded roughly by the present-day streets of Firestone Boulevard in the north, Rosecrans Boulevard in the south, Central Avenue in the west, and Alameda Street in the east. Anastasio Avila was a prominent Angelino. Born in 1776, he served as *alcalde* of Los Angeles between 1819 and 1821. His brother Francisco, another one-time *alcalde*, built the more famous Avila Adobe on Olvera Street. Anastasio Avila built a two-room adobe on his grant. The Avila Adobe on Rancho la Tajuata was said to still be standing at the intersection of Grape and 115th Streets in 1938 (*Watts Advertiser-Review* 1938). Another old Spanish house was said to stand near the intersection of Compton Avenue and 103rd Street and served as a rectory for the Catholic Church, now called St. Lawrence of Brindisi (*Watts Advertiser-Review* 1938; *Our Community* [1941] 1965). Harrington's informant told him "The old adobe house was a quarter of a block west of the

spring site" (qtd. in McCawley 1995:58). Rancho Tajuata was primarily used for livestock ranching.

Avila's son Enrique (or Henrique) patented the land according to United States law in 1873, but his claim was not without dispute. Settlers claimed much of the rancho. Avila filed claims as early as 1856 (*Los Angeles Star* 1856), but it was not until 1875 that he finally prevailed in the California Supreme Court against 15 rival claimants to the land (*Los Angeles Herald* 1875).

Beginning in the mid-1860s, before land title was even clear, Rancho la Tajuata was subdivided (*Los Angeles Herald* 1876). The 1869 construction of the SPRR along Alameda Street, at the edge of Tajuata, made this land more desirable. The parcels were mostly sold as smaller ranches and farms. By the mid-1880s, a small community called Tajuata had been established; it is reported to have had a school with approximately 100 pupils (*Los Angeles Times* [LAT] 1887). In the first decades of the 20th century, small ethnic communities began to develop in this area. Germans bought large tracts in the northeast portion of Watts. Japanese immigrants held farms in Tajuata, particularly along Central Avenue and Main Street (now 103rd Street). Some African Americans moved into the southeast of Tajuata, and the southwest was largely Mexican, an enclave known as El Jarin (The Garden) or "Spanish Camp." A Greek community called Palomar was founded in the southeast; Russians soon joined the Greeks (Ray 1985; Jimenez y West 2007; *Our Community* [1941] 1965). Watts was a popular settling place for migrants from both the American South and outside the United States. Germans, Scots, Italians, Canadians, Irish, English, Norwegians, Swiss, Danes, Turks, and Jews settled in the city (Belieu 1938).

In 1902, the Pacific Electric Railway (the Red Car Line) extended a line through Rancho la Tajuata to Long Beach. Near what is now 103rd Street, branches were also established to Santa Ana and the South Bay. Land speculator and local resident Charles Watts or his widow donated land for construction of a railroad station at what is now 1686 East 103rd Street, and the railroad named the stop Watts Station, or the Wilmington Watts Freight Station, in his honor. A combination passenger and freight depot was constructed at the site in 1904; it was the first building of importance on Main Street (Ray 1985). The Late Victorian building survived the 1965 Watts Riot, is one of the few remaining Pacific Electric Railroad depots, and was entered into the National Register of Historic Places (NRHP) in 1974 (P-19-167188). Since 1989, the LADWP has used the building as a customer service office (Feldman 1989; Grimes 1972).

The Red Car Line helped turn Watts into a multi-ethnic working class suburb. Watts Station became the center of the community (Plate 1). The railroad made no stops between Watts and Los Angeles, enabling residents to arrive downtown in 22 minutes at a price of 14 cents, round-trip. Promoters noted that residents of Watts could get to downtown Los Angeles faster than many residents of Los Angeles itself. Roads and tiny house lots—typically 25 by 130 feet—were quickly laid out and sold for as little as $1 down and $1 a week (Belieu 1938). Road grids were established, but each developer used a different grid. The first streets were paved in 1911. A business district grew up on Main Street, but it was small, since Watts was envisioned to be a bedroom community for Los Angeles (Belieu 1938; *Watts Advertiser-Review* 1938). The town of Watts was incorporated in 1906, and by that time it was estimated that Watts was home to two or three grocery stores, a dry goods store containing a post office, a lumber yard, a hardware store, and a saloon (*Our Community* [1941] 1965:3). The town voted to annex itself to Los Angeles in

1926. Development was swift at the time of annexation. The streets running east-west, all of which were named, were integrated into the numbered Los Angeles road system, and Main Street became 103rd Street.

Plate 1: Main Street (Now 103rd Street), Watts, July, 1912.
Watts Station Center Right (LAPL n.d.).

In 1925, the 98th Street School was named and opened. Its name was changed to the 99th Street Elementary School in the midst of plans for improvement in 1926 (Los Angeles Unified School District 1973). Late in that year, the Los Angeles Public School system began considering plans for a 12-unit 99th Street Elementary School building, which would cost $84,000 and rise to two stories with a basement, “with pressed brick exterior facing and tuffa stone trimming” (LAT 1926).

The streets of Watts were initially gas-lit, but by the early 1920s some homes already had electricity. The construction of the Boulder Dam to Los Angeles transmission line—an engineering marvel that extended a distance of 266 miles and used new technology to carry electricity—made reliable and inexpensive electricity possible in this part of Southern California (Scattergood 1935). The line terminated at the Century Receiving Station, on the northeast corner of Century Boulevard and Clovis Avenue, much of which was built in 1926, the year of annexation (Stewart 2008). As of 1944, 85% of the power for Los Angeles came from the Boulder Dam to this station, which was the largest power station operated by the LADWP (LAT 1944). A later line was extended west from the Century Receiving Station paralleling 98th Street in 1946. The line was opposed by residents who feared a drop in property values and the dangers associated with having high voltage power lines so close to their school. Signs were posted in front of houses along 98th Street, calling it Mayor Fletcher Bowron Street and asserting that the mayor had lost control over the LADWP (Plate 2).

Plate 2: Sign Protesting the 98th Street Transmission Line, ca. 1946 (LADWP Photo Archive n.d.).

The area around Central Avenue, which includes the project site, was approximately 1 mile from Watts Station. This made the land less desirable than plots closer to the train depot, and the area was consequently slow to develop. It came to be known as Central Avenue Gardens after its many small farms (*Our Community* [1941] 1965). Nearby is Green Meadows, named for George Wright's ranch that existed at the spot in the middle 19th century (Guinn 1915:2:273). Central Avenue Gardens was settled by small numbers of African Americans in the 1920s to 1940s. Marshall Stimson purchased land in the south of Watts to establish an African-American colony (Stimson 1966). He styled it as a philanthropic gesture to help incoming African Americans own their own homes, but local resident Alfred Belieu described the first land sales to African Americans in Watts as part of a "spite deal" (Ray 1985:15). Regardless, the southern part of Central Avenue Gardens south of Main Street soon came to be called Mudtown, and was a small colony of African-American migrants from the American South (Jimenez y West 2007). According to a history compiled by a teacher at the 111th Street School, "One of the chief aims of the people is for Central Avenue Gardens to become the ideal Colored district" (*Our Community* [1941] 1965:6).

Over the ensuing decades, Watts increasingly became an African-American ghetto. Increasing use of personal automobiles made reliance on trains unnecessary, and the small houses of Watts were increasingly undesirable in contrast with the now more easily accessible suburbs. Large numbers of African Americans came to Los Angeles during the Second Great Migration during and after World War II. The African-American population of Los Angeles County increased

eightfold, from 75,000 in 1940 to 600,000 in 1965. These newcomers were excluded from many newer neighborhoods by racially restricted covenants, and found themselves concentrated in the neighborhoods of south and central Los Angeles, including Watts (Collins 1980; Poe [1965] 1977).

Unplanned overpopulation of African-American neighborhoods was compounded by planned concentration of the poor. In 1938, the State of California chartered the Housing Authority of the City of Los Angeles (HACLA), which began to build low-income multi-unit dwellings across Watts in the 1940s (HACLA Fact Sheet 2009; Sitton 2005). Hacienda Village (now Gonzaque Village) was built at 103rd Street and Compton Avenue in 1942. Imperial Courts, located on Imperial Highway at Grape Street, was completed in 1944. Nickerson Gardens was built at 1590 East 114th Street in 1955. Also in 1955, Jordan Downs, a housing complex built for World War II workers adjacent to Jordan High School, was converted to public housing 1955. Race quotas, which froze African Americans out of most subsidized housing, were abolished in 1943; this allowed for an influx of disadvantaged African Americans into the Watts projects. As early as 1942, a Subcommittee of the United States House of Representatives was warned of the possibility of race riots due to simmering tensions related to the "intolerable housing condition" for African Americans in Los Angeles (in Collins 1980:28). By 1950, African Americans made up 71.2% of the population of Watts, and Latinos made up 19.1% (Lopez 1994).

Watts is perhaps best known in the American collective memory for the 1965 Watts Riots, which broke out as the result of alleged police brutality. On August 11, 1965, California Highway Patrolman Lee W. Minikus, a Caucasian motorcycle officer, stopped 21-year-old African-American motorist Marquette Frye on suspicion of driving under the influence of alcohol near the corner of 116th Street and Avalon Boulevard outside Watts. A crowd began to gather while the two were awaiting a squad car. Frye and his family members allegedly became combative, as did members of the crowd. Rumors quickly spread through the neighborhood that the police were brutalizing pregnant and elderly women. As the police withdrew after making several arrests, the crowd began throwing stones at the departing police cars, then at other automobiles, and finally beating motorists (Conot 1968; Governor's Commission on the Los Angeles Riots 1965).

Fueled by rumors of police brutality and years of pent-up resentment, the violence quickly escalated and spread both inside and outside of Watts. Thousands or tens of thousands participated in the ensuing looting and violence (Plate 3). Over the next 6 days, stores were looted and burned firearms were stolen from stores, and snipers shot from the rooftops. Among their targets were firefighters, who were issued flak jackets and given National Guard protection. According to the official tally, when the National Guard finally restored calm, a total of 977 buildings were looted, burned, or otherwise damaged, and 268 of these were destroyed. In total, 34 people were killed (23 of them by police and National Guard) and 1,032 were injured. The business district of Watts was destroyed, and 103rd Street became known as Charcoal Alley.

Plate 3: Businesses Burn during the Watts Riot, 1965 (LAPL n.d.).

History of the Project Site

The earliest maps of the project vicinity show an undeveloped plain. A single house and a corral are shown on Enrique Abila's "Diseno of Rancho la Tajauta," first drawn in the 1850s (Plate 4). The house is shown standing near a spring. Woods are seen in the north and the west of the land grant and a body of water or swamp appears in the southeast. In addition, five springs and their watercourses are mapped.

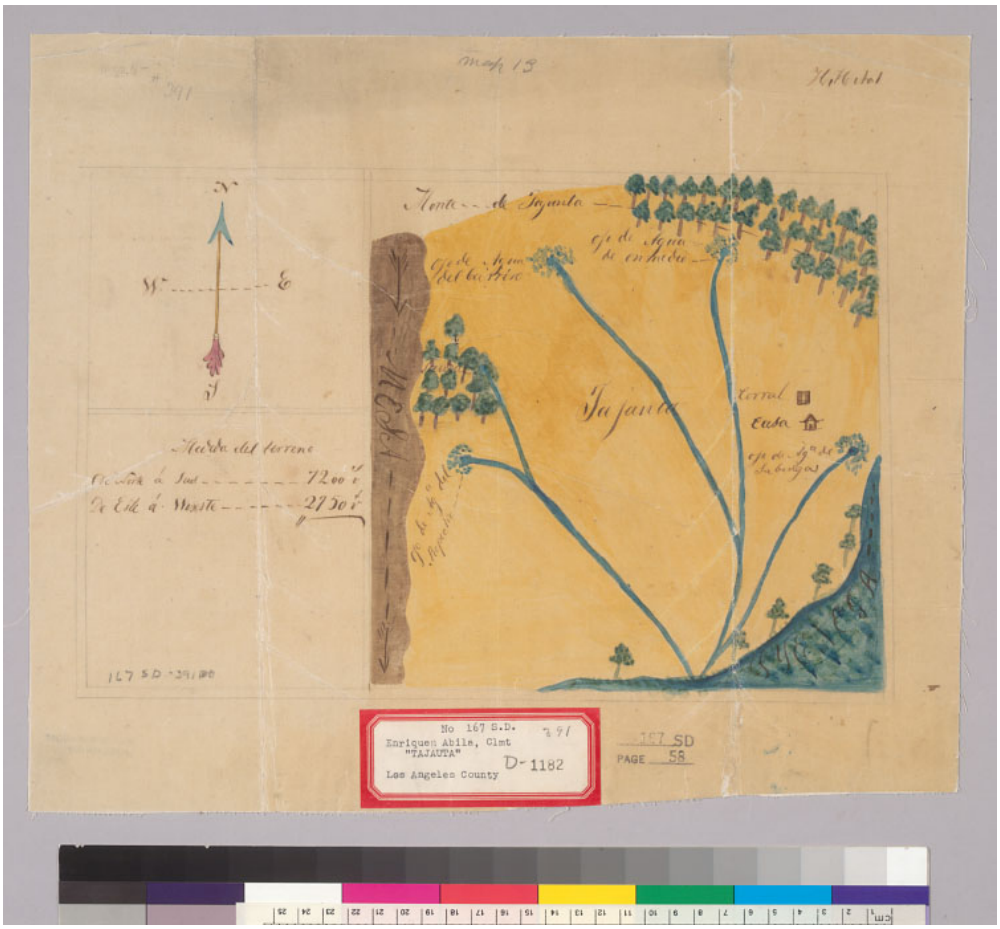

Plate 4: Enrique Abila's Diseno of Rancho la Tajauta (Calisphere 2011).

The most useful maps for charting the history of the project site are USGS maps. In the 1923 and 1924 Watts 7.5' USGS maps, this region is still largely undeveloped. Main Street (now 103rd Street) ends at Central Avenue. The nearest structure is shown at the northwest corner of Clovis Street and Century Boulevard. Clovis Street terminates at Century Boulevard at this date, and both streets are unpaved.

By 1937, the Watts 7.5' USGS map shows that most of Watts has developed. The one exception is the area south of Century Boulevard and west of Clovis Avenue, which remains almost entirely undeveloped. Avalon Street was constructed by 1925. Central Avenue now has its characteristic diagonal bend north of the Century Receiving Station. The Century Receiving Station now appears, bounded by Century Boulevard in the south, 95th Street in the north, Clovis Avenue in the east, and Central Avenue in the west. The 99th Street School is shown, though its footprint is smaller than in later years. The 1937 map shows 99th Street as a through street, and the elementary school lies entirely to the south of this street. One structure is shown at the northeast corner of Wadsworth Avenue and 99th Street (Plate 5). A power line cuts west from the substation through this block.

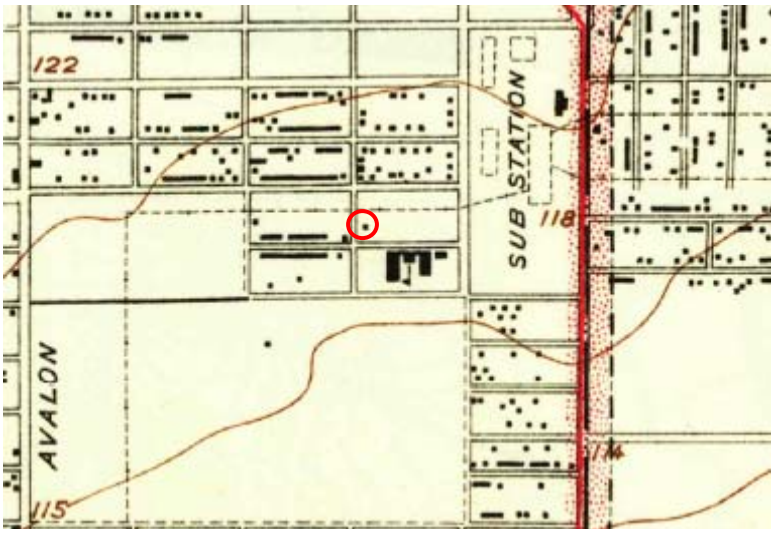

Plate 5: 1937 Watts USGS 7.5' Topographic Map, Circle Indicates Project Site.

By the time of the 1950 and 1952 Inglewood 7.5' USGS maps, Watts is so developed that individual, privately owned structures are no longer depicted. The 99th Street Elementary School buildings are still entirely south of 99th Street. The 99th Street Pumping Station complex is coded as private land, and no structures are shown (Plate 6). A 1952 aerial photo shows a structure or structures at the 99th Street Wells Pumping Station site, but the resolution is too poor to describe what stood here (Historic Aerials 2013).

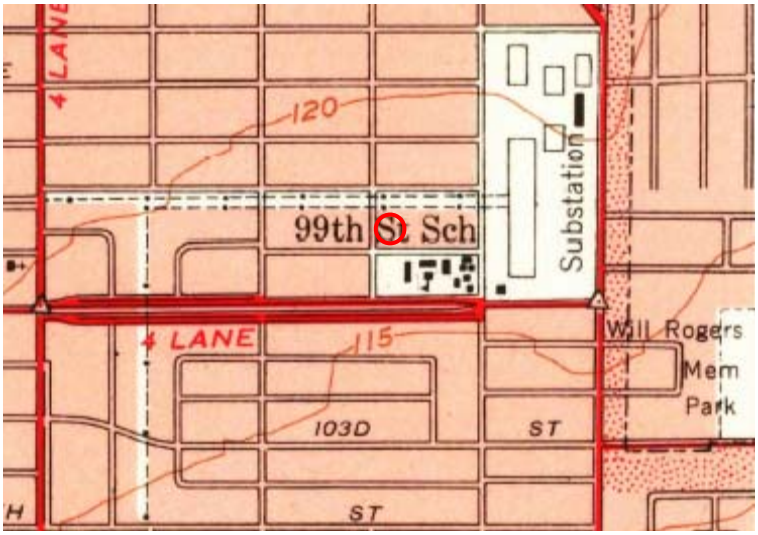

Plate 6: 1950 Inglewood USGS 7.5' Topographic Map, Circle Indicates Project Site.

By the 1964 Inglewood 7.5' USGS map (Plate 7), 99th Street between Wadsworth Avenue and Clovis Avenue was vacated. The area north of 99th Street had become public land. A structure stands at the northeast corner of 99th Street and Wadsworth Avenue, on the present 99th Street Wells Pumping Station property.

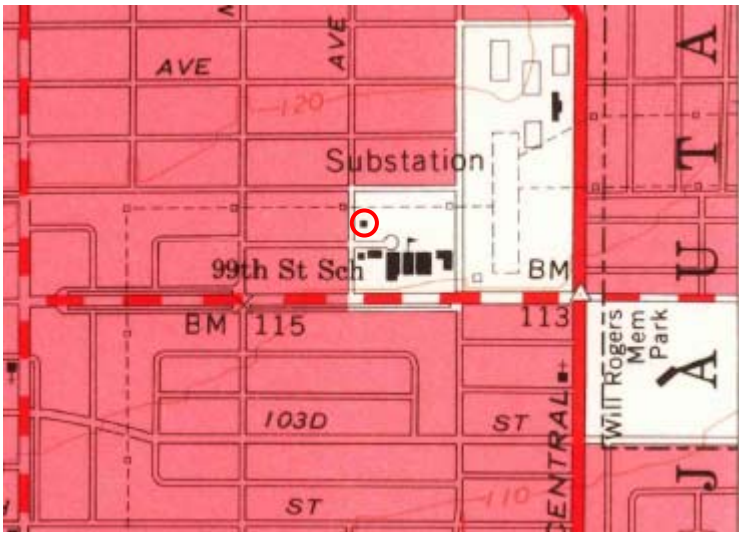

Plate 7: 1964 Inglewood USGS 7.5' Topographic Map, Circle Indicates Project Site.

The evolution of the 99th Street school grounds is clear in the USGS maps and in aerial photos (Historic Aerials 2013). As noted in the historic background above, the 99th Street Elementary School was constructed beginning after 1926. Building 1 dates to approximately 1927. The school first appears on the 1937 Watts USGS 7.5' map, where it is shown as three or four buildings, mostly at the east end of the school property (see Plate 5). By the time of the 1950, 1952, and 1957 Inglewood maps, a total of 10 buildings appear on the school campus (see Plate 6). These also appear in a 1952 aerial photo (Historic Aerials 2013). Between 1957 and 1964, the campus changes radically. Building 1 appears on the map, but the cluster of buildings at the west end of the complex has disappeared. These have been replaced by buildings with recognizably different footprints (see Plate 7). Other buildings that appear alongside the main building in the 1937 and later maps appear to be enlarged with additions or replaced entirely by larger structures.

By 1972, further changes to the configuration of the 99th Street Elementary School are evident. These changes are seen in an aerial photograph and photorevised USGS map. The campus has begun to assume its present configuration (Plate 8). All the buildings except Building 1 have been razed. The cluster of buildings east of Building 1 was replaced with a single, smaller building. The foundation of one of the destroyed buildings is still visible in the 1972 aerial photograph. The two buildings that had paralleled 98th Street east of its intersection with Wadsworth Avenue were replaced with a single large building (Building 2). Two new buildings appear south of this long building. In addition, the auditorium north of 98th Street (Building 3) has been constructed as the first school building north of the now-closed street. It is clear that only one building on the original campus, Building 1, survives from the beginning of the school's construction to the present day.

Plate 8: 1964 Inglewood USGS 7.5' Topographic Map, Photorevised 1972, Circle Indicates Project Site; New School Buildings Indicated in Pink.

The destruction of the Watts Riots spared the immediate vicinity of the project site (Plate 9), since the rioting targeted commercial structures. Will Rogers Memorial Park, private homes, and the power substation served as buffers between the 103rd Street business district, which was largely destroyed, and 9880 Wadsworth Avenue. Public buildings like the 99th Street Elementary School were largely spared during the riots. However, much of the discourse concerning improving conditions in Watts after the riots revolved around improving the area's educational system (Turpin 1965; Governor's Commission on the Los Angeles Riots 1965). The influx of money to rebuild and improve Watts after the riot led to the massive campus reorganization described above. The school buildings were indirect casualties of the riot.

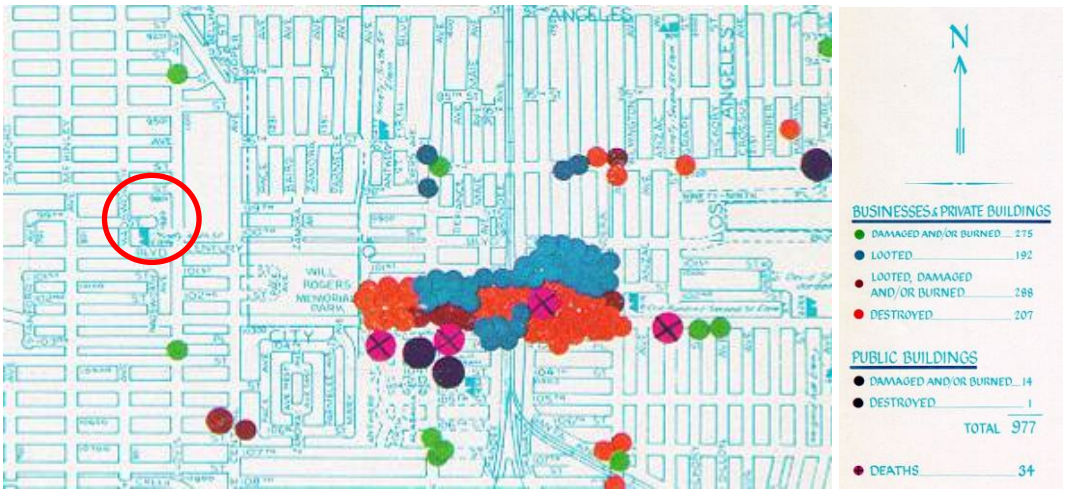

Plate 9: Map of Los Angeles Curfew Area Showing Destruction during Watts Riots (Governor's Commission on the Los Angeles Riots 1965). Circle Indicates Project Vicinity.

ARCHIVAL RESEARCH AND CONTACT PROGRAM

The cultural resources investigation for this project involved archival research and a field survey. The archival research conducted for this project included a records search at the South Central Coastal Information Center (SCCIC), and a sacred lands file (SLF) search.

ARCHIVAL RESEARCH

Additional historic research to develop a historical context for the project site was conducted at a number of archival repositories. Archives searched include the Los Angeles Public Library (LAPL), Calisphere (the University of California's digital collections), the California Digital Newspaper Collection, the University of Southern California digital archives, Library of Congress electronic resources, and Navigate LA. Documents searched during the course of the research include book and journal publications, historic newspaper articles, historic photographs, historic maps, and engineering plans.

Records Search

Archival research of the project site was conducted by Linda Kry on July 17, 2013, at the SCCIC housed at California State University, Fullerton. The research focused on the identification of previously recorded cultural resources within a 0.5-mile radius of the proposed project footprint. The archival research involved review of cultural resources site records, historic maps, and historic site and building inventories. The NRHP database and listings for the California State Historic Resources Inventory (HRI), and the California Historical Landmarks (CHL) Register were examined to determine whether any resources in this radius were listed in or had been determined eligible for these registers. The California Point of Historical Interest (CPHI), the California Register of Historical Resources (CRHR), and the City of Los Angeles Historic-Cultural Monuments also were reviewed for resources located within or adjacent to the project site.

The records search revealed that four cultural resources investigations were previously conducted within a 0.5-mile radius of the project site (Table 1). Two of these investigations are the results of a cultural resources records search and site visit, and the remaining two are survey reports. The project footprint has not been previously surveyed.

Table 1. Previous Surveys Conducted within 0.5 Mile of the Project

Author	Report # (LA-)	Description	Date
Bonner, Wayne H.	8798	Cultural Resources Records Search and Site Visit Results for T-mobile Candidate LA03253b (Friendly Friendship Baptist Church), 10101 South Avalon Boulevard, Los Angeles, Los Angeles County, California	2006
Bonner, Wayne H. and Kathleen Crawford	9508	Cultural Resources Records Search and Site Visit Results for T-mobile Candidate LA03253C (Friendly Friendship 2), 10101 South Avalon Boulevard, Los Angeles, Los Angeles County California	2008
King, Phil V.	8955*	Final Report for Year Three Historical and Cultural Resources Survey of Los Angeles: Sylmar, Watts, Crenshaw, and Vermont/Slauson	1983
Wood, Catherine M. and Mark C. Robinson	7691	Archaeological Survey Report for the Imani Fe East and West Project 10345 S. Central Avenue and 10408-10424 S. Central Avenue, Los Angeles, California	2006

*Surveys that touch the boundary of the project site.

The records search indicated that one cultural resource has been previously recorded within 0.5 mile of the project site. This resource (P-19-188983) consists of a historic resource that is an element of a district (Table 2).

Table 2. Previously Recorded Resources within 0.5 Mile of the Project Site

Permanent Trinomial (CA-LAN-)	P-Number (P-19-)	Other Number	Description	Date Recorded
	188983		The Boulder Dam – Los Angeles 287.5 kV Transmission Line	08/2008

P-19-188983

This resource is the 40-mile segment of the Boulder Dam – Los Angeles 287.5 kV Transmission Line situated within Los Angeles County. The transmission line consists of two parallel electrical transmission circuits carried on steel lattice towers running approximately 270 miles from the Hoover Dam to Century Receiving Station in Watts. The resource is less than 0.25 mile directly east of the project site. The Boulder Dam – Los Angeles 287.5 kV Transmission Line was determined eligible for inclusion in the NRHP in 1999 under Criteria A and C and its eligibility remained the same when it was reassessed in 2008. This resource is located outside the area of potential effects (APE).

California State Historic Resources Inventory

The California Office of Historic Preservation's HRI does not list any historic resources within 0.5 mile of the project site.

California Historical Landmarks

A listing of CHLs identified no historic landmarks within 0.5 mile of the project site. However, one CHL is located approximately 1 mile southeast of the project site. This resource is the Watts Towers of Simon Rodia (CHL 933), which is located at 1765 East 107th Street in the City of Los Angeles. The Watts Towers are internationally recognized as a significant and unique expression of folk art, architecture, and sculpture. The towers (P-19-165239) were listed in the NRHP in 1977.

Los Angeles Historic-Cultural Monument Register

A search of the LAHCM register did not identify any historic monuments previously recorded within 0.5 mile of the project. However, the Watts Towers (LAHCM 15) were listed approximately 1 mile southeast of the project site. In addition, Watts Station (LAHCM 36) is located at 1686 East 103rd Street in the City of Los Angeles, approximately 0.9 mile southeast of the project. Watts Station was listed in the NRHP in 1974.

INTERESTED PARTIES CONSULTATION PROGRAM

Sacred Lands File Search

As part of this investigation, AECOM conducted a Native American contact program on behalf of the LADWP, to inform interested parties of the proposed project and to address any concerns regarding Traditional Cultural Properties or other resources that might be affected by the project. The program involved contacting Native American representatives provided by the Native American Heritage Commission (NAHC) to solicit comments and concerns regarding the project. Documents pertaining to the Native American contact program are attached as Appendix B.

A letter was prepared and mailed to the NAHC on July 25, 2013. The letter requested that a Sacred Lands File check be conducted for the 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 in a letter dated July 29, 2013. The letter indicated that "A record search of the NAHC Sacred Lands File failed to indicate the presence of Native American traditional cultural places" in the project site. However, the letter also noted "the NAHC SLF inventory is not exhaustive; therefore, the absence of archaeological or Native American sacred places does not preclude their existence." The letter included an attached list of Native American contacts who may have knowledge of cultural resources in the vicinity of the project site.

Letters were mailed on August 6, 2013, to each group or individual provided on the NAHC contact list (Table 3). Maps depicting the project site and response forms were attached to each letter (see Appendix B). One response has been received to date and the results are reported in Table 3 below following the conclusion of the 30-day comment period.

Table 3. Native American Contacts

Native American Contact	Letter Sent	Date of Reply	Follow-Up	Response
Bernie Acuna Gabrielino-Tongva Tribe	08/06/2013	n/a	09/10/2013: Left voicemail message	No response
Conrad Acuna Gabrielino-Tongva Tribe	08/06/2013	n/a	09/10/2013: Left voicemail message	No response
Cindi Alvitre Ti'At Society/Inter-Tribal Council of Pimu	08/06/2013	n/a	09/10/2013: Left voicemail message	No response
Ron Andrade, Director Los Angeles Native American Indian Commission	08/06/2013	n/a	09/10/2013: Left voicemail message	No response
Linda Candelaria, Chairwoman Gabrielino-Tongva Tribe	08/06/2013	n/a	09/10/2013: Left voicemail message	No response
Robert Dorame Gabrielino Tongva Indians of California Tribal Council	08/06/2013	n/a	09/10/2013: Spoke with Mr. Dorame via telephone	Mr. Dorame stated that he is not familiar with the area but believes there is a site in the area. Mr. Dorame did not provide any further information pertaining to the site he mentioned.
Sam Dunlap Gabrielino Tongva Nation	08/06/2013	n/a	09/10/2013: Left voicemail message	No response
Anthony Morales Gabrielino/Tongva San Gabriel Band of Mission Indians	08/06/2013	n/a	09/10/2013: Left voicemail message	No response
John Tommy Rosas Tongva Ancestral Territorial Tribal Nation	08/06/2013	n/a	09/10/2013: Left voicemail message	No response
Andy Salas, Chairperson Gabrielino Band of Mission Indians	08/06/2013	n/a	09/10/2013: Left voicemail message	No response

CULTURAL RESOURCES SURVEY RESULTS

A cultural resources field survey of the project site was conducted by Marc Beherec, Ph.D., RPA, and Linda Kry on July 23, 2013. Pedestrian survey was conducted within all portions of the project site, including the existing 99th Street Wells Pumping Station, the site of the proposed chloramination station, and the proposed laydown area to the north of the existing Pumping Station. The cultural resources survey included identification of archaeological and built environment resources.

Cultural resources identified during the surveys were documented on appropriate Department of Parks and Recreation (DPR) 523 forms. These included a Primary Form (Form 523A) and Location Map (Form 523J), at a minimum. Some resources required Building, Structure, and Object Record (523B), Sketch Map (Form 523K), and/or Continuation Sheets (Form 523L). Resource locations were determined using a Global Positioning System unit. All completed DPR site forms will be sent to the SCCIC for the assignment of permanent numbers in the state inventory system prior to finalizing this report. DPR forms are included in this report in Appendix C.

ARCHAEOLOGICAL SURVEY

The archaeological survey focused on the identification of any surface evidence of archaeological materials in the project footprint. The pedestrian survey encompassed the areas that would be disturbed by the project.

Proposed Chloramination Station Building Site

The proposed chloramination station building site lies south of the 99th Street Wells Pumping Station complex and north of a closed portion of 99th Street (Plate 10). This area is currently partially overgrown with low grasses, and visibility is approximately 50%. There is great deal of bioturbation, probably due to pocket gopher activity. Soils consist of fine to coarse-grained tan silty sand with small amounts of gravel. No artifacts were observed in this area.

Plate 10: Proposed Chloramination Station Building Site.

99th Street Wells Pumping Station

The 99th Street Wells Pumping Station consists of six buildings, an electric transformer, and a concrete forebay-covering. More than 50% of the ground surface within the existing complex is developed. The exposed soils consist of light brown coarse-grained silty sand mixed with small pebbles. Visibility within the fenced site was about 75%. Sparse grasses and some landscaping, particularly along the fence line paralleling Wadsworth Avenue, obscured the remaining 25% of the surface area. A sparse scatter of clear bottle glass and building materials including brick, porcelain, and tile fragments; ceramic insulator fragments; metal hardware; and vitrified sewer pipe fragments, as well as a concentration of unidentified corroded ferrous metal fragments, were observed on the grounds. These materials may be recent in origin. No prehistoric artifacts or diagnostic historic artifacts were observed.

Proposed Lay-Down Area

North of the existing 99th Street Wells Pumping Station complex is a small park beneath power lines. An access gate in the north fence accesses the existing complex from this park, and the proposed lay-down area is directly north of this gate (Plate 11). This area is largely free of vegetation and debris, and visibility was greater than 95%. Soils resembled those in the north end of the existing Sanitation Complex. No artifacts were observed on the surface in this area.

Plate 11: Overview of Proposed Lay-Down Yard, View West.

Potential for Archaeological Resources

Prehistoric 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 site. 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.

Currently, the water sources shown in historic maps of the 99th Street area are dried up or tamed, often to provide water for the City of Los Angeles. However, historically Tajuata was known for its swamps, springs, and artesian wells. The alluvial soil was laid down by meandering rivers, such as predecessors of the modern Los Angeles River. Current water sources do not reflect the relatively recent past. For example, as late as 1938, a canalized river, now gone, flowed beside Compton Avenue (*Watts Advertiser-Review* 1938; *Our Community* [1941] 1965). Rich soil and once abundant waters may have made this area desirable for indigenous peoples.

It is possible that prehistoric resources could be buried beneath the ground surface, especially in areas where development has included only minimal ground disturbance. The proposed building site is undeveloped and may therefore hold intact prehistoric deposits, with the likelihood increasing with depth.

Historic Period Site Potential

The Watts area has been utilized as ranchland since the Spanish period. The lands lay within the grazing area of Mission San Gabriel Arcangel, and not far from important routes to San Pedro.

The land was ranched as part of Rancho la Tajuata as early as 1820. From 1926, the 99th Street Elementary School has existed just south of the property, and homes began to spring up nearby in the first quarter of the 20th century. A building appears on the site in 1937 topographic maps. There is some potential to encounter archaeological resources associated with these historic uses within the project site.

HISTORIC ARCHITECTURAL RESOURCES SURVEY

As part of the cultural resources field investigation, the project footprint and surrounding areas were surveyed for historic architectural resources that have the potential to be impacted by the project.

Resources that were or appeared to be 45 years or older and have the potential to be impacted, directly or indirectly by project activities, were recorded with digital photographs and evaluated under criteria for listing in the CRHR. Two resources were identified in the APE and are discussed below.

99th Street Wells Pumping Station

The 99th Street Wells Pumping Station is a complex located at 9880 Wadsworth Avenue that contains six buildings, and a concrete forebay and sand trap. Building 1 is identified as the old pumping station building, located at the center of the complex (Plate 12). It is a one-story concrete building with a square plan, smooth concrete exterior walls that contain recessed panels, and a low-pitched hipped asphalt roof. The south façade contains offset double doors. The building does not contain windows. Building 1 is a utilitarian building that is currently used as the Chemical Analyzer Building and houses chemicals. Based on LADWP records, Building 1 was built in the late 1940s.

The remaining buildings in the complex are also utilitarian and were constructed after 1972. Building 2 (built between 1972 and 1980), the current pumping station, is a one-story building with a square plan and exaggerated hipped roof with wide, overhanging eaves that is located immediately north of Building 1 (Plate 13). Building 3 (built post-1972) is an ancillary concrete block shed restroom with a square plan and hipped roof (Plate 14). Building 4 (built post-1972) is a one-story brick building with two connected sections that currently functions as the Chlorination Building, and will be demolished after the completion of the proposed Chloramination Station Building (Plate 15). Building 5 (built between 1980 and 2003) is a one-story concrete structure that functions as the Corrosion Inhibitor Building (Plate 16). Building 6 (built post-1972) is a one-story concrete building that serves as a Fluoridation Building (Plate 17). In the center of the complex is the concrete roof of a 215,000-gallon forebay and sand trap (Plate 18). Numerous functional alterations have occurred around the complex, including the various years of construction of the existing buildings, and the additions of several pipes and an exterior safety shower.

Plate 12: 99th Street Wells Pumping Station Building 1, View Facing North.

Plate 13: 99th Street Wells Pumping Station Building 2, View Facing Southwest.

Plate 14: 99th Street Wells Pumping Station Building 3, View Facing Northeast.

Plate 15: 99th Street Wells Pumping Station Building 4, View Facing Northwest.

Plate 16: Building 5, Oblique View to Southwest.

Plate 17: Building 6, North Façade, View to Southwest.

Plate 18: Concrete Forebay and Sand Trap Cover, View South.

99th Street Elementary School

The 99th Street Elementary School is a complex that contains several buildings, three of which are or may be 45 years or older, face the project area, and are identified as Buildings 1, 2, and 3. The remaining school buildings were built after 1972 (based on USGS topographic maps and aerial photographs).

Building 1 (Plate 19) is a two-story concrete school building with a rectangular plan, paired multi-pane windows with transoms above, a hipped gabled tile roof with gable vents, an addition to the north, an addition to the south, and a brick arcade breezeway attached at its northeast corner (Plate 20). It may have a full basement. The additions are one-story and have similar fenestration. These were added at an unknown date.

Building 2 (Plate 21) is a two-story school classroom building with a rectangular plan, tilt up concrete or masonry walls, vinyl or aluminum windows in the side elevations, and a low-pitched front-gabled roof that is oriented towards Wadsworth Avenue. The central entrance is in the west façade and consists of double-doors in a brick veneer exterior with open bays in the wide gable. It was built between 1964 and 1972.

Building 3 (Plate 22) is the two-story school auditorium building with a rectangular plan, concrete or masonry exterior walls, and a low-pitched gable roof with clerestory windows in the gable. It is designed in the same style as Building 2 and was built between 1964 and 1972.

Plate 19: 99th Street Elementary School Building 1 (at left), View Facing Northwest.

Plate 20: 99th Street Elementary School Building 1, North Side, View Facing Southwest

Plate 21: 99th Street Elementary School Building 2, View Facing South

Plate 22: 99th Street Elementary School Building 3, View Facing South

EVALUATION AND 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.

CRHR

The CRHR was created to identify resources deemed worthy of preservation on a state level and was modeled closely after the NRHP. The criteria are nearly identical to those of the NRHP but focus on resources of statewide, rather than national, significance. The CRHR 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 CRHR are based on NRHP criteria but are identified as 1 through 4 instead of A through D. To be eligible for listing in the CRHR, 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.

RESOURCES EVALUATION

A thorough pedestrian survey of the study area did not result in the identification of any previously unknown archaeological resources. Two historic architectural resources were identified in the APE and evaluated based on CRHR criteria (see below).

99th Street Wells Pumping Station

The 99th Street Wells Pumping Station does not meet the criteria to be eligible for the CRHR. The complex, originally established in the late 1940s, was built during the postwar development of Watts and the City of Los Angeles. It currently serves as a chlorination station within the LADWP's potable water supply system. The water supply is pumped through the complex, where the water is tested and treated to make it potable. The complex has had several alterations for functional reasons several times in the past, including the addition of new buildings. The complex currently contains six buildings and a concrete forebay and sand trap. Only one of these buildings, Building 1, the original pump station, is over 45 years old. The remaining complex buildings and structures were built post-1972.

The complex is associated with postwar and late 20th century development in the Watts community and the City of Los Angeles, but the buildings and their utilitarian functions have not had an important or specific historic role, nor are they 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 (Criterion 1). Research has not revealed an association between the water treatment facility and any specific historical figures or any person whose life was important to local, California, or national history (Criterion 2). The water treatment facility, including the pumping station, the auxiliary buildings, the forebay and the sand trap, are utilitarian in construction, and typical of their types dating from the late 1940s (Building 1 only) and the 1970s. The complex, including its individual buildings and structures, does not embody the distinctive characteristics of a type, period, or method of construction or represent the work of a master, or possess high artistic values (Criterion 3). It is unlikely to yield information important in the prehistory or history of the local area, California, or the nation (Criterion 4). The resource does not meet the level of significance to meet CRHR criteria 1 through 4. It is not eligible for the CRHR.

99th Street Elementary School

The 99th Street Elementary School does not meet the criteria to be eligible for the CRHR. Established in 1925 as the 98th Street School, renamed in 1926 as the 99th Street School, and expanded with substantial school buildings in 1927, this public school was established during the early development of Watts and its annexation to the City of Los Angeles. The school campus includes several buildings, but only one dates to 1927, and two others were built at an unknown date between 1965 and 1972. All other buildings on the campus were built post-1972.

The 99th Street Elementary School is associated with early residential development and the expanding educational system in Watts during the early 20th century. However, the school does not appear to have specific associations with any historic events that have made a significant

contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States (Criterion 1). Research has not revealed any specific associations with a person whose life was important to local, California, or national history (Criterion 2). The complex contains a mix of architectural styles, the most prominent being Spanish Eclectic (Building 1) and late 20th century Modern (Buildings 2 and 3). The method of construction is typical for both eras and is not unique. As a complex, it does not have a stylistic unity, and as individual buildings, they do not exhibit architectural significance. The school complex does not embody the distinctive characteristics of a type, period, or method of construction or represent the work of a master, or possess high artistic values (Criterion 3). The resource is unlikely to yield information important in the prehistory or history of the local area, California, or the nation (Criterion 4).

RECOMMENDATIONS

Paleontological Recommendations

A consultation of the USGS *Preliminary Geologic Map of the Los Angeles 30' x 60' Quadrangle, Southern California* (Yerkes and Campbell 2005) shows that the 99th Street Wells Pumping Station and surrounding area consist of younger Quaternary Alluvium. The field visit did not reveal the presence of any local conditions that would contradict this assertion or require special consideration. These deposits are younger than 10,000 years old. Consequently, such deposits have a low probability of yielding fossils, including vertebrate fossils or other scientifically significant fossils. Excavation is not to exceed 8.5 feet in depth for any component of the proposed project, and therefore is not anticipated to disturb any other subsurface deposits or formations. No mitigation is typically required in deposits of this nature (Christensen 2007; Scott and Springer 2003).

Archaeological Recommendations

Based on the results of the archival research and survey, there is low potential that archaeological resources will be encountered during ground disturbing activities for the proposed project. Ground disturbance required for the proposed project will not exceed 8.5 feet in depth. If archaeological resources are encountered during ground disturbing activities, LADWP will contact a qualified archaeologist to evaluate and determine appropriate treatment for the resource in accordance with California Public Resource Code (PRC) Section 21083.2(i). If any archaeological resources are encountered during ground-disturbing activities, work will be temporarily halted in the vicinity of the find and the archaeologist will be called to the project site to examine and evaluate the resource in accordance with the provisions of CEQA. If any Native American cultural material is encountered within the project site, consultation with interested Native American parties will be conducted to apprise them of any such findings and solicit any comments they may have regarding appropriate treatment and disposition of the resources. If human remains are discovered, work in the immediate vicinity of the discovery will be suspended and the Los Angeles County Coroner contacted. If the remains are deemed Native American in origin, the Coroner will contact the NAHC and identify a Most Likely Descendant (MLD) pursuant to Public Resources Code Section 5097.98 and California Code of Regulations

Section 15064.5. Work may be resumed at the landowner's discretion but will only commence after consultation and treatment have been concluded. Work may continue on other parts of the project while consultation and treatment are conducted.

Historic Architectural Resources Recommendations

Two historic architectural resources that were 45 years old or older were identified as a result of the intensive survey. The 99th Street Wells Pumping Station was originally built in the late 1940s; the current complex contains one original building and several modern (post-1972) utilitarian buildings, and is the site of the proposed project. The 99th Street Elementary School was originally built as the 98th Street School in 1925, renamed in 1926, and expanded in 1927; the current complex includes one original building from 1927 and several later additions. The complex is located to the south of the project site. These two resources were evaluated and did not meet criteria for listing in the CRHR.

There are no significant historical resources within the APE for the purposes of CEQA. No further work is recommended concerning historic architectural resources.

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APPENDIX A

RESUMES

Heather Gibson, PhD, RPA
Archaeologist

Education
Ph.D., with distinction, Anthropology, Syracuse University, Syracuse, NY, 2007
M.A., Anthropology, Syracuse University, Syracuse, NY, 2004
B.A., magna cum laude, Anthropology and French, University of Notre Dame, 1998

Professional Affiliations
Member, Society for California Archaeology
Member, Society for Historical Archaeology
Member, Register of Professional Archaeologists
Member, Society for American Archaeology

Training
National Preservation Institute, Section 106 Review for Experienced Practitioners (2012)
National Preservation Institute, Section 106 Basics (2010)

Grants + Awards
2008, Doctoral Prize, Syracuse University
2008, Certificate in University Teaching, Syracuse University
2007–2008, Post-doctoral Fellowship, Mellon French Atlantic History Group, McGill University
2006, Maxwell Dean's Dissertation Fellowship, Syracuse University
2004–2005, Fulbright-Hays Doctoral Dissertation Research Abroad (DDRA) grant, US Department of Education
2001–2004, 2005–2006, University Fellow, Syracuse University

Heather Gibson is an anthropologically trained archaeologist with 11 years of research experience. Her archaeological experience includes archival research, surveys, and excavations at sites in the United States and Caribbean. As an historical archaeologist who has worked on a range of 18th, 19th, and 20th century sites, she has deep knowledge of historic material culture. She has served as project archaeologist and principal investigator on cultural resources and environmental projects in compliance with the California Environmental Quality Act (CEQA), National Environmental Policy Act (NEPA) and Section 106 of the National Historic Preservation Act (NHPA) for public and private sector clients including a range of local and federal agencies. Dr. Gibson meets the Secretary of the Interior's professional qualification standards in both history and archaeology. She has been awarded numerous grants for her research and is the author of journal articles and papers presented at national and international conferences.

Project Experience

Elysian Park – Downtown Water Recycling Pipeline Phase I Study and Archaeological Discovery and Treatment Plan, Los Angeles Department of Water and Power, Los Angeles, CA
Principal investigator and report author for Phase I study in compliance with CEQA and Section 106 of the NHPA. Conducted background research, pedestrian survey, and analysis of archaeological potential for project area. Drafted technical report and archaeological treatment plan, including treatment recommendations for the historic Los Angeles *zanja* water conveyance system.

Los Angeles Department of Water and Power, Van Norman Complex Water Quality Improvement, Phase I Cultural Resources Assessment, Los Angeles, CA
Project archaeologist and technical report co-author for Phase I archaeological study in compliance with CEQA. Conducted background research and analysed impacts of proposed facility upgrades to cultural resources.

City of Los Angeles Harbor Department, WWL Vehicle Cargo Terminal at Berths 195-200A Phase I Archaeological Study, Los Angeles County, CA
Project archaeologist and technical report co-author for Phase I archaeological study in compliance with CEQA. Conducted background research, developed historic context, and analysed impacts of proposed facility upgrades to cultural resources.

SWCA Environmental Consultants/County of Los Angeles, Los Angeles Plaza Cemetery Technical Report, Los Angeles, CA
Primary author and project manager for analysis of historic artifact assemblage excavated from 19th century cemetery site. Provided laboratory analysis of 19th century historic material culture, created descriptive artifact catalog, conducted additional research to identify and date artifacts, and authored report chapter for technical study in compliance with Section 106.

City of Los Angeles Department of Public Works, Aiso Street Parking Facility Archaeological Assessment, Los Angeles, CA
Archaeological and paleontological monitoring for this project resulted in discovery of seven 19th and 20th century features and more than 100 isolated artifacts. The features were documented, excavated, and evaluated for their significance under CEQA. Tasks included analysis of results and authoring final report documenting construction monitoring, describing features and artifacts that recovered, and evaluating their significance.

City of Los Angeles Department of Public Works, Alameda Street/Spring Street Arterial Redesign Phase II Archaeological Resource Assessment, Los Angeles, CA
Archaeological monitoring was conducted for this project during construction activities related to widening of Alameda Street. During the course of monitoring, archaeologists discovered historic archaeological resources related to the late 19th and early 20th century use of the area. Resources discovered included a segment of the original Zanja Madre irrigation system, railroad elements, and the original brick pavement of Alameda Street located under the present roadway. Mitigation in compliance with CEQA was developed to address each of the resource types, and included documentation, avoidance, and removal. As project archaeologist, conducted analysis of results and authored final report. Report documents the construction monitoring, describes the features and artifacts that were recovered, and evaluates their historic significance.

California High Speed Rail Authority, California High-Speed Train, Fresno to Merced Cultural Resources Inventory, Fresno and Merced Counties, CA
Project historian who conducted built environment fieldwork to record and evaluate historic resources for railway alignment and affiliated parcel acquisitions. Evaluated resources within the Area of Potential Effects to recommend eligibility to the National Register of Historic Places and California Register of Historic Resources. Project archaeologist for development of treatment plans to address project impacts to archaeological resources.

Los Angeles Unified School District, Central Los Angeles High School #9, Los Angeles, CA
Project archaeologist providing senior review, report content, and report editing for 19th century cemetery project. Project includes data recovery of archaeological materials in connection with the 19th century Los Angeles City Cemetery in downtown Los Angeles, which were discovered during archaeological monitoring of the demolition and grading phases of construction at the Central Los Angeles Area New High School #9. The project team coordinated with the Los Angeles County Coroner and office of Vital Statistics to obtain disinterment permits; developed a mitigation plan incorporating the components related to the future disposition of remains, artifact curation, and commemoration; and conducted laboratory analysis of artifacts and human remains. A technical report documenting the history of the cemetery, its role in 19th-century Los Angeles, and the results of the osteological and artifact analysis is currently being prepared. Responsibilities included reviewing the technical report, drafting necessary sections to provide synthesis, and coordinating supplementary analysis necessary for project completion.

Tessera Solar, Imperial Valley Solar Project, Imperial County, CA
Project archaeologist for Bureau of Land Management (BLM) Class III intensive pedestrian survey, resource documentation, and site evaluation efforts for an approximately 6,500-acre solar power project on BLM land under a Fast-Track American Recovery and Reinvestment Act funding schedule. AECOM services included field investigations, preparation of cultural resource documents, and Section 106 consultation. As designed, the project was crossed by the Congressional-designated Juan Bautista de Anza National Historic Trail corridor. Responsibilities pertained to the portion of the project area that overlays the National Historic Trail corridor. Consultation on the disposition of the trail corridor involved hiring subconsultants to do specialized analysis; summarizing consultant findings for presentation to BLM and consulting parties (State Historic Preservation Office, National Park Service, and National Trust for Historic Preservation, and others); and drafting a synthetic technical report.

National Park Service, Four Trails Feasibility Study Environmental Assessment, CA, CO, IA, ID, KS, MO, NE, OK, OR, NV, UT, WA, WY
Project archaeologist for feasibility study for revisions to the California, Mormon Pioneer, Pony Express, and Oregon National Historic Trails. Role includes background research, analysis of existing conditions, and assessment of impacts to archaeological resources. Prepared archaeological resources sections for EA.

National Park Service, Butterfield Overland Trail Environmental Assessment, AK, AR, CA, MO, NM, OK, TX
Project archaeologist for special resource study to evaluate feasibility of adding the Butterfield Overland trail as a national historic trail. Role includes background research, analysis of existing conditions, and assessment of impacts to archaeological resources. Prepared archaeological resources sections for EA.

Ukraine Famine-Genocide Memorial Commission and National Park Service, Ukraine Famine-Genocide Memorial Environmental Assessment and Phase I Archaeological Study, Washington, D.C.
Project archaeologist for memorial commission who conducted archival research and analysis of potential impacts to archaeological resources for this NEPA and Section 106 project. Evaluated impacts to archaeological resources for multiple proposed project design alternatives and prepared corresponding Environmental Assessment sections. Prepared Phase IA archaeological report following District of Columbia guidelines. Coordinated archaeological studies with State Historic Preservation Office on behalf of the client.

Department of State, Potomac Annex Feasibility Study, Washington, DC
Project archaeologist who conducted archival research, archaeological site visit, and preliminary study of potential impacts to archaeological resources. Worked with client to design a strategy for early consideration of cultural resources in the design phase. Prepared memo detailing historic background, known archaeological resources, archaeological potential of project area, and recommended steps for identification and evaluation of archaeological resources. Participated in client meetings to present results.

National Park Service, Vietnam Veterans Memorial Education Center Environmental Assessment, Washington, DC
Project archaeologist for National Environmental Policy Act (NEPA) and Section 106 project. Conducted background research and analysis of archaeological sensitivity for project APE. Evaluated impacts to archaeological resources for multiple proposed project design alternatives and prepared Environmental Assessment archaeological resources sections. Coordinated archaeological studies with State Historic Preservation Office on behalf of client.

General Services Administration, Mary E. Switzer Building Site Improvements, Phase I/II Investigations, Washington, DC
Project archaeologist who provided technical support for geoarchaeological and combined Phase I/II archaeological studies for site where a buried 19th century foundation was identified. Coordinated with subconsultants conducting fieldwork and provided project management support. Coordinated archaeological studies with State Historic Preservation Office on behalf of the client.

National Park Service, Eisenhower Memorial Environmental Assessment and Phase IA Archaeological Study, Washington, DC
Project archaeologist for memorial commission who conducted archival research, archaeological pedestrian survey, and analysis of potential impacts to archaeological resources for this NEPA and Section 106 project. Evaluated impacts to archaeological resources for multiple proposed project design alternatives and prepared corresponding Environmental Assessment sections. Prepared Phase IA archaeological report following District of Columbia guidelines for archaeological investigations and recommended subsequent steps to identify and evaluate resources and archaeological potential. Coordinated archaeological studies with State Historic Preservation Office on behalf of the client.

Selected Reports

Elysian Park – Downtown Water Recycling Project Archaeological Discovery and Treatment Plan, City of Los Angeles, California, with S. Dietler. 2012. Prepared for Los Angeles Department of Water and Power. AECOM.

Underneath Alameda Street: Archaeological Monitoring Report for the Alameda Street/Spring Street Arterial Redesign Phase II Project, City of Los Angeles, California, with S. Dietler. 2011. Prepared for City of Los Angeles, Department of Public Works. AECOM.

Archaeological Assessment for the Aiso Street Parking Facility Project, City of Los Angeles, California, with L. Kry and S. Dietler. 2011. Prepared for City of Los Angeles, Department of Public Works. AECOM.

Publications

Not Dead But Gone Before: The Archaeology of Los Angeles City Cemetery. 2012. AECOM Cultural Heritage Publication No. 4, H. Gibson and S. Dietler, editors. Prepared for Los Angeles Unified School District. AECOM.

Gibson, Heather. 2010. Review of *Building the Devil's Empire,* by S. Dawdy. *Historical Archaeology,* Vol. 44, No. 2.

Gibson, Heather. 2009. Domestic Economy and Daily Practice in Guadeloupe: Historical Archaeology at La Mahaudière Plantation. *International Journal of Historical Archaeology,* Vol. 13, No. 1.

Gibson, Heather. 2007. *Daily Practice and Domestic Economy in Guadeloupe, FWI: An Archaeological and Historical Study*. Ph.D. Dissertation, Syracuse University, Syracuse, New York.

Kelly, Kenneth, and Heather Gibson. 2005. Plantation Village Archaeology in Guadeloupe, French West Indies. In *Proceedings of the XX International Congress of Caribbean Archaeologists*, edited by G. Tavarez and M. Garcia Arevalo. Museo del Hombre Dominicano and Fondacion Garcia Arvela, Santo Domingo.

Marc A. Beherec, PhD, RPA
Project Archaeologist

Education
PhD, Anthropology, University of California, San Diego, San Diego, CA, 2011
MA, Anthropology, University of California, San Diego, San Diego, CA, 2004
BA, Anthropology (Geology minor), University of Texas, Austin, Austin, TX, 2000

Professional Affiliations
Member, Register of Professional Archaeologists
Member, Society for American Archaeology
Member, Society for California Archaeology
Member, California Mission Studies Association

Dr. Marc Beherec has been involved in the field of cultural resources management for over a decade. He has worked throughout the southwest on projects within Federal and State regulatory framework, and is experienced in the identification and analysis of both prehistoric and historic era artifacts. Dr. Beherec also has extensive experience in Archaic period sites in the western US as well as archaeological analyses in Jordan. For the past year and a half, he has served as Monitoring Coordinator and Lead Monitor for the NextEra Genesis Solar Energy Project and then for Los Angeles Metropolitan Transportation Authority projects.

Selected Project Experience

Los Angeles County Metropolitan Transportation Authority Compliance Monitoring (Los Angeles Metro)
Monitoring Coordinator for the cultural resources compliance monitoring of multiple projects within the greater Los Angeles area. Tasks involve the scheduling and coordination of between 5 and 25 concurrent archaeological monitors on diverse construction efforts throughout the project site; compilation, QA/QC, and delivery of daily monitoring logs for all on-site monitors; attending project construction scheduling and Health and Safety meetings; conducting and documenting daily monitoring crew Health and Safety meetings; serving as liaison between archaeological monitors, construction crew and client project team; ensuring overall cultural resources compliance with the permitted conditions of the project.

NextEra Genesis Solar Energy Project Cultural Resources Compliance Monitoring
Monitoring Coordinator and Lead Monitor for the cultural resources compliance monitoring of a 2000-acre solar power project under the jurisdiction of the California Energy Commission and Bureau of Land Management (BLM) on BLM land in the western Mojave Desert. Tasks involve the scheduling and coordination of between 5 and 25 concurrent archaeological monitors on diverse construction efforts throughout the project site; compilation, QA/QC, and delivery of

daily monitoring logs for all on-site monitors; attending project construction scheduling and Health and Safety meetings; conducting and documenting daily monitoring crew Health and Safety meetings; serving as liaison between archaeological monitors, construction crew and client project team; ensuring overall cultural resources compliance with the permitted conditions of the project.

San Bernardino National Forest San Jacinto District Archaeologist, Idyllwild, CA
Archaeologist assigned to Idyllwild Ranger Station, San Jacinto District, San Bernardino National Forest, Riverside County, California. Assisted District Archaeologist in cultural resources efforts, including supervision of crews conducting cultural resources inventories of mountainous terrain, GPS documentation of resources, preparation of DPR 523 forms, research of prehistoric and historic artifact parallels, including projectile point typologies, makers' marks, and tin can typologies, and authoring technical reports. Work was performed before joining this firm.

Border Field State Park, San Diego County, CA
Excavated coastal Early Archaic sites in and adjacent to Border Field State Park. Work was performed before joining this firm.

Lake Meredith National Recreational Area Cultural Resources Surveys, Amarillo, TX
Archaeologist for intensive pedestrian surveys of the Lake Meredith National Recreational Area, an area along the the Canadian River with documented human occupation for over 12,000 years. Relocated previously documented archaeological sites and documented newly identified sites. Work was performed before joining this firm.

East Texas Pipeline Survey, Austin, TX
Crew Chief for intensive pedestrian survey of a new east Texas pipeline corridor. Efforts included field survey, shovel testing, site recordation, and GPS operation. Work was performed before joining this firm.

Camp Swift Archaeological Project, Bastrop, TX
Archaeologist for test excavations at Camp Swift Army National Guard Base. Excavated test units at eighteen sites, documented excavations, and drilled rock cores for archaeomagnetic dating research. Work was performed before joining this firm.

Gault Site Archaeological Project, Bell County, TX
Excavated at the Gault Paleoindian site (41BL323), completed documents (unit forms and maps, profile maps, Munsell notations, artifact catalogs), conducted preliminary lithic analysis, measured lithic blades for statistical studies, and supervised student volunteers in washing lithics. Work was performed before joining this firm.

Trina Meiser
Historic Preservation Planner

Education
MA, Historic Preservation Planning, Cornell University, 2003
BA, History, Kenyon College, 1998

Years of Experience
With AECOM 5
With other firms 6

Technical Specialties
Historic Resources Evaluation
Cultural Resources Management

Professional Affiliations
National Trust for Historic Preservation
California Preservation Foundation

Trina Meiser is a Secretary of Interior-qualified historian and historic preservationist (36 CFR Part 61) with over 10 years of experience in identifying, evaluating, and planning for historic structures, districts, sites, and cultural resources. Ms. Meiser has conducted several cultural resources studies, including the preparation of survey and evaluation reports, impacts analyses and findings of effect, National Register of Historic Places nominations, Historic Structure Reports, and HABS/HAER documents. She has consulted on a variety of energy, transportation, military, housing, and community projects with clients, architects, engineers, and agency representatives for regulatory review, specifically NHPA Section 106 consultation. Her experience in historic preservation planning provides a strong understanding of historic preservation laws and a thorough knowledge of the *Secretary of the Interior's Standards for the Treatment of Historic Properties*. Ms. Meiser maintains a solid knowledge of architectural history and building materials conservation and has led seminars on architectural styles, workshops in materials conservation, and preservation design charrettes.

Abengoa Mojave Solar Project, Lockhart, CA
Prepared historical resources studies in support of an Environmental Assessment for a solar energy project. Conducted archival research,contact programs, and fieldwork, and prepared technical report for the evaluation

of historical resources and mitigation measures.

Solar Millennium Blythe Solar Power Project, Riverside County, CA
Prepared historical resources studies in support of an AFC application.Conducted archival research,contact programs, and fieldwork, and prepared technical report for the evaluation of historical resources and mitigation measures. Coordinated process with BLM and CEC.

Solar Millennium Palen Solar Power Project, Riverside County, CA
Prepared historical resources studies in support of an AFC application.Conducted archival research,contact programs, and fieldwork, and prepared technical report for the evaluation of historical resources and mitigation measures. Coordinated process with BLM and CEC.

IID Dixieland 230kV Transmission Line Project, Imperial County, CA
Conducted archival research and fieldwork to identify potential historic properties for the cultural resources survey. Coordinated with BLM.

Niland Solar Project,
Imperial County, CA
Conducted archival research and fieldwork to identify potential historic properties for the cultural resources survey.

City of Temecula Main Street Bridge Replacement Project, Temecula, CA
Conducted a survey and historical research of historic resources in Old Town Temecula adjacent to the Main Street Bridge. Results were recorded on DPR forms and in the HPSR per Caltrans guidelines.

SR-76 Mission to I-15 Historical Resources Evaluation Report, San Diego County, CA
Conducted fieldwork to record and evaluate ranching buildings and residences. Prepared the HRER per Caltrans standards for the evaluation of historical resources for eligibility to the National Register and the California Register.

SR-94 Widening and HOV Lanes Project,
San Diego, CA
Conducted fieldwork to record and evaluate urban built environment resources. Prepared the HRER and HPSR per Caltrans standards for the evaluation of historical resources for eligibility to the National Register and the California Register.

Potomac Annex Building 1 Project,
Washington, DC
For GSA and the Department of State, performed a conditions assessment of Building 1 in the Potomac Annex Historic District to identify existing character-defining features and to assess their integrity. Prepared analysis of potential impacts in a Historic Preservation Report that will describe existing features and recommend appropriate treatments to maintain the property’s integrity as part of rehabilitation efforts.

National Park Service Jefferson National Expansion Memorial,
St. Louis, MO
Performed research and prepared portions of the historical context the Native American occupation, the French colonial establishment, and the 19th century development of the built environment for the GMP/EIS as consultant to NPS.

Los Angeles Harbor Light Station Rehabilitation Project,
San Pedro, CA
For U.S. Coast Guard, prepared Finding of No Adverse Effect for the NRHP-listed “Angel’s Gate” lighthouse. Conducted research to supplement the NRHP nomination’s significance evaluation, and prepared a property assessment to establish historically significant and character-defining features of the lighthouse. In conjunction with engineers, determined rehabilitation plan including sensitive

treatments adhering to the *Secretary of Interior's Standards*.

San Francisco Veterans Affairs Medical Center Seismic Upgrade Project,
San Francisco, CA
On behalf of the VA, consulted with architects for the rehabilitation design and seismic retrofit of the 1930s-era Art Deco SFVAMC buildings within a NRHP-listed historic district. As part of Section 106 consultation, provided guidance based on *Secretary of Interior's Standards for Rehabilitation*.

National Register Eligiblity Assessment for Grow the Force and Base Utility Infrastructure Projects,
Camp Pendleton, CA
Evaluated over 150 buildings located on Camp Pendleton for eligibility to the NRHP. Incorporated findings in an inventory to support the project EIS.

APPENDIX B

NATIVE AMERICAN CONTACT PROGRAM

AECOM Inc
515 South Flower Street, 9th Floor, Los Angeles, CA 90071
T 213.593.7700 F 213.593.7715 www.AECOM.com

July 25, 2013

NATIVE AMERICAN HERITAGE COMMISSION
915 Capitol Mall, Room 364
Sacramento, California 95814
ds_nahc@pacbell.net

Subject: LADWP 99th Street Wells Chloramination Station Project Cultural Resources Phase I – Sacred Lands File Search

Dear Mr. Singleton:

AECOM, Inc. has been retained by the Los Angeles Department of Water and Power to request that the Native American Heritage Commission conduct a Sacred Lands File search for the 99th Street Wells Chloramination Station Project Cultural Resources Phase I. The proposed project is located in Section 32 of Township 2 South, Range 13 West of the following California United States Geological Survey (USGS) 7.5-minute quadrangle maps: Inglewood 1981 and South Gate 1981, and is indicated on the enclosed map (Enclosure 1).

The project proposes to construct and operate 99th Street Wells Chloramination Station (NNCS) within the existing 99th Street Pumping Station (NNPS) Complex property, which is located in the Watts community of the City of Los Angeles. The project consists of the installation of all necessary equipment and structures needed to facilitate on-site sodium hypochlorite generation, monitoring, and injection, and ammoniation. The proposed construction components will enable chloraminaion of groundwater pumped by the NNPS. The proposed work includes the demolition of an existing chloramination building on the NNPS Complex property. The purpose of the proposed project is to increase the pumping capacity and conjunctive use of the ground water supply from the Central Basin. All proposed construction work would remain within the confines of the existing LADWP property.

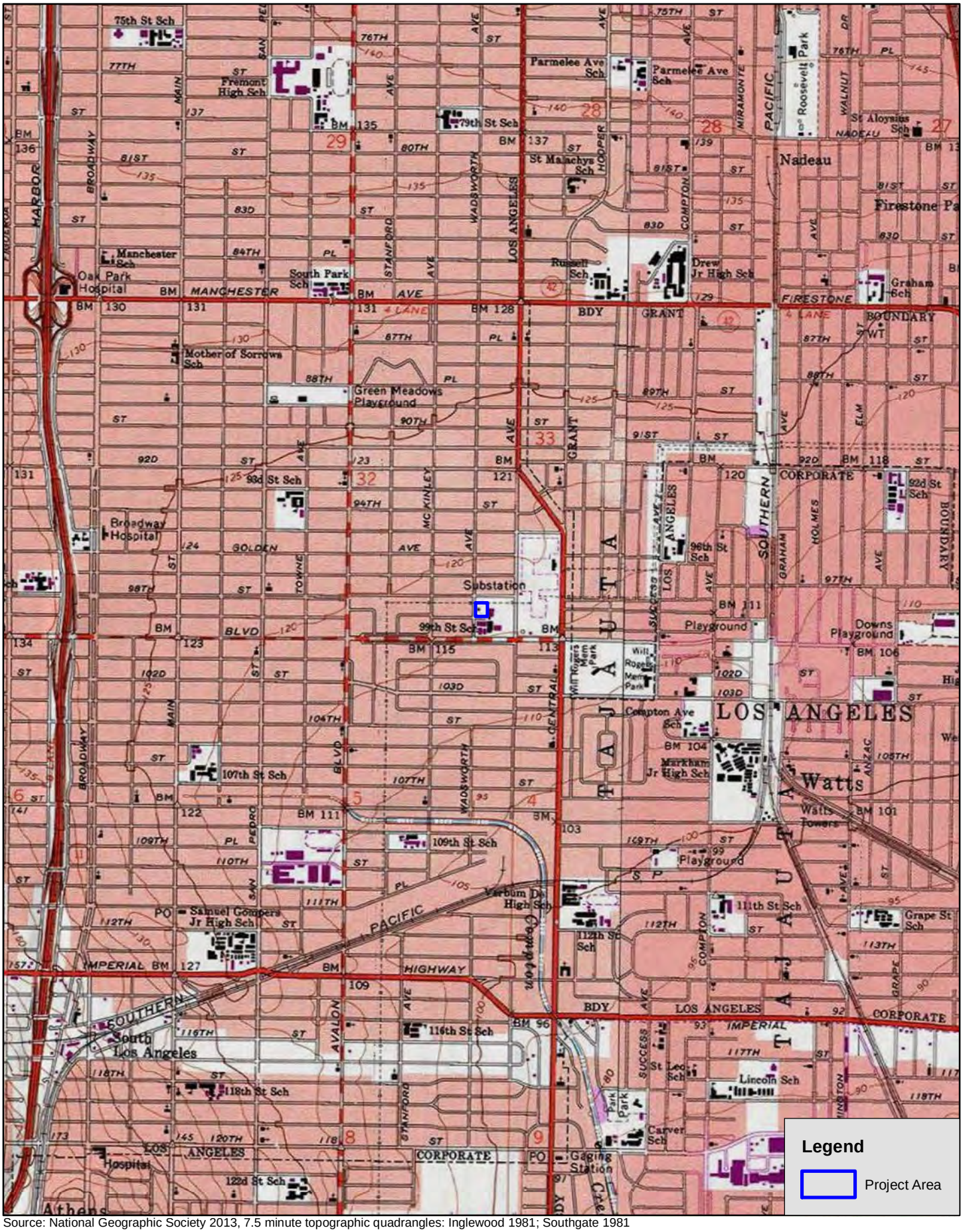
The goal of this letter, in addition to acquainting you with this project, is to request that you check the Sacred Lands File records to identify any previously recorded sites in the project area.

Thank you for your assistance. Please feel free to contact me if you have any questions about this project.

Very truly yours,

Heather Gibson, Ph.D., RPA
AECOM
Project Archaeologist
heather.gibson@aecom.com
D: 213-593-8580 or 714-567-2753

Enclosure 1, Project Area Map



Source: National Geographic Society 2013, 7.5 minute topographic quadrangles: Inglewood 1981; Southgate 1981

Project Area Map

99th Street Chloramination Station Project

STATE OF CALIFORNIA Edmund G. Brown, Jr., Governor

NATIVE AMERICAN HERITAGE COMMISSION
1550 Harbor Boulevard, Suite 100
West Sacramento, CA 95691
(916) 373-3715
Fax (916) 373-5471
www.nahc.ca.gov
e-mail: ds_nahc@pacbell.net

July 29, 2013

Dr. Heather Gibson, Ph.D., RPA
AECOM
515 South Flower Street, 9th Floor
Los Angeles, CA 90071

Sent By FAX to: 213-593-7715
No. of Pages: 4

Re: Request for Sacred Lands File Search and Native American Contacts list for the **"LAWDP 99th Street Wells Chloramination Station Project (Cultural Resources);"** located in the City of Los Angeles; Los Angeles County, California

Dear Dr. Gibson:

A record search of the NAHC Sacred Lands File failed to indicate the presence of Native American traditional cultural place(s) in the project sites submitted, based on the USGS coordinates submitted as part of the 'Areas of Potential Effect. (APEs), Also, note that the NAHC SLF Inventory is not exhaustive; therefore, the absence of archaeological or Native American sacred places does not preclude their existence. Other data sources for Native American sacred places/sites should also be contacted. A Native American tribe of individual may be the only sources of presence of traditional cultural places or sites.

In the 1985 Appellate Court decision (170 Cal App 3rd 604; *EPIC v. Johnson*), the Court held that the NAHC has jurisdiction and special expertise, as a state agency, over affected Native American resources impacted by proposed projects, including archaeological places of religious significance to Native Americans, and to Native American burial sites.

Attached is a list of Native American tribes, individuals/organization who may have knowledge of cultural resources in or near the project area. As part of the consultation process, the NAHC recommends that local governments and project developers contact the tribal governments and individuals to determine if any cultural places might be impacted by the proposed action. If a response is not received in two weeks of notification the NAHC requests that a follow telephone call be made to ensure that the project information has been received.

If you have any questions or need additional information, please contact me at (916) 373-3715.

Sincerely,

Dave Singleton
Program Analyst

Attachment

Native American Contacts
Los Angeles County
July 29, 2013

LA City/County Native American Indian Comm
Ron Andrade, Director
3175 West 6th St, Rm. 403
Los Angeles , CA 90020
randrade@css.lacounty.gov
(213) 351-5324
(213) 386-3995 FAX

Gabrielino Tongva Nation
Sam Dunlap, Cultural Resources Director
P.O. Box 86908 Gabrielino Tongva
Los Angeles , CA 90086
samdunlap@earthlink.net

(909) 262-9351 - cell

Ti'At Society/Inter-Tribal Council of Pimu
Cindi M. Alvitre, Chairwoman-Manisar
3094 Mace Avenue, Apt. B Gabrielino
Costa Mesa, , CA 92626
calvitre@yahoo.com
(714) 504-2468 Cell

Gabrielino Tongva Indians of California Tribal Council
Robert F. Dorame, Tribal Chair/Cultural Resources
P.O. Box 490 Gabrielino Tongva
Bellflower , CA 90707
gtongva@verizon.net
562-761-6417 - voice
562-761-6417- fax

Tongva Ancestral Territorial Tribal Nation
John Tommy Rosas, Tribal Admin.
Private Address Gabrielino Tongva
,
tattnlaw@gmail.com
310-570-6567

Gabrielino-Tongva Tribe
Bernie Acuna, Co-Chairperson
P.O. Box 180 Gabrielino
Bonsall , CA 92003
(619) 294-6660-work
(310) 428-5690 - cell
(760) 636-0854- FAX
bacuna1@gabrielinotribe.org

Gabrieleno/Tongva San Gabriel Band of Mission
Anthony Morales, Chairperson
PO Box 693 Gabrielino Tongva
San Gabriel , CA 91778
GTTribalcouncil@aol.com
(626) 286-1632
(626) 286-1758 - Home
(626) 286-1262 -FAX

Gabrielino-Tongva Tribe
Linda Candelaria, Co-Chairperson
P.O. Box 180 Gabrielino
Bonsall , CA 92003
palmsprings9@yahoo.com
626-676-1184- cell
(760) 636-0854 - FAX

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of the statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources for the proposed LAWDP 99th Street Wells Chloramination Station Project; located in the City of Los Angeles; Los Angeles County, California for which a Sacred Lands File search and Native American Contacts list were requested.

Native American Contacts
Los Angeles County
July 29, 2013

Gabrieleno Band of Mission Indians
Andrew Salas, Chairperson
P.O. Box 393 Gabrielino
Covina , CA 91723
gabrielenoindians@yahoo.
(626) 926-4131

Gabrielino-Tongva Tribe
Conrad Acuna,
P.O. Box 180 Gabrielino
Bonsall , CA 92003

760-636-0854 - FAX

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of the statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources for the proposed LAWDP 99th Street Wells Chloramination Station Project; located in the City of Los Angeles; Los Angeles County, California for which a Sacred Lands File search and Native American Contacts list were requested.

AECOM Inc
515 South Flower Street, 8th Floor, Los Angeles, CA 90071
T 213.593.7700 F 213.593.7715 www.AECOM.com

August 6, 2013

Gabrielino-Tongva Tribe
Bernie Acuna, Co-Chairperson
PO Box 180
Bonsall, CA 92003

Subject: LADWP 99th Street Wells Chloramination Station Project Cultural Resources Phase I

Dear Mr. Acuna:

AECOM, Inc. has been retained by the Los Angeles Department of Water and Power to conduct Native American contact for the 99th Street Wells Chloramination Station Project Cultural Resources Phase I. The Native American Heritage Commission conducted a Sacred Lands File search for the project, and identified you as an individual who may have knowledge of cultural resources in or near the project area.

The project proposes to construct and operate 99th Street Wells Chloramination Station (NNCS) within the existing 99th Street Pumping Station (NNPS) Complex property, which is located in the Watts community of the City of Los Angeles. The project consists of the installation of all necessary equipment and structures needed to facilitate on-site sodium hypochlorite generation, monitoring, and injection, and ammoniation. The proposed construction components will enable chloraminaion of groundwater pumped by the NNPS. The proposed work includes the demolition of an existing chloramination building on the NNPS Complex property. The purpose of the proposed project is to increase the pumping capacity and conjunctive use of the ground water supply from the Central Basin. All proposed construction work would remain within the confines of the existing LADWP property.

The proposed project is located in Section 32 of Township 2 South, Range 13 West of the following California United States Geological Survey (USGS) 7.5-minute quadrangle maps: Inglewood 1981 and South Gate 1981, and is indicated on the enclosed map (Enclosure 1).

The response form (Enclosure 2) is provided to help us identify and address your concerns with this project. Return of this form does not imply that you approve or disapprove of the project nor does it limit your opportunity to comment at a later time. Please return the response form to the address shown below no later than September 6, 2013.

AECOM Inc
515 South Flower Street, 8th Floor, Los Angeles, CA 90071
T 213.593.7700 F 213.593.7715 www.AECOM.com

Please contact me directly with any questions.

Very truly yours,

Linda Kry
AECOM
Archaeologist
linda.kry@aecom.com
D: 213-593-8474 or 213-435-5846

Enclosure:

1) Project Area Map
2) Response Form
3) Self-Addressed Stamped Envelope

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T 213.593.7700 F 213.593.7715 www.AECOM.com

August 6, 2013

Gabrielino-Tongva Tribe
Conrad Acuna
PO Box 180
Bonsall, CA 92003

Subject: LADWP 99th Street Wells Chloramination Station Project Cultural Resources Phase I

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Please contact me directly with any questions.

Very truly yours,

Linda Kry
AECOM
Archaeologist
linda.kry@aecom.com
D: 213-593-8474 or 213-435-5846

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August 6, 2013

Ti'At Society/Inter-Tribal Council of Pimu
Cindi M. Alvitre, Chairwoman-Manisar
3094 Mace Avenue, Apt. B
Costa Mesa, CA 92626

Subject: LADWP 99th Street Wells Chloramination Station Project Cultural Resources Phase I

Dear Ms. Alvitre:

AECOM, Inc. has been retained by the Los Angeles Department of Water and Power to conduct Native American contact for the 99th Street Wells Chloramination Station Project Cultural Resources Phase I. The Native American Heritage Commission conducted a Sacred Lands File search for the project, and identified you as an individual who may have knowledge of cultural resources in or near the project area.

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Please contact me directly with any questions.

Very truly yours,

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AECOM
Archaeologist
linda.kry@aecom.com
D: 213-593-8474 or 213-435-5846

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T 213.593.7700 F 213.593.7715 www.AECOM.com

August 6, 2013

LA City/County Native American Indian Comm.
Ron Andrade, Director
3175 West 6th Street, Rm 403
Los Angeles, CA 90020

Subject: LADWP 99th Street Wells Chloramination Station Project Cultural Resources Phase I

Dear Mr. Andrade:

AECOM, Inc. has been retained by the Los Angeles Department of Water and Power to conduct Native American contact for the 99th Street Wells Chloramination Station Project Cultural Resources Phase I. The Native American Heritage Commission conducted a Sacred Lands File search for the project, and identified you as an individual who may have knowledge of cultural resources in or near the project area.

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Please contact me directly with any questions.

Very truly yours,

Linda Kry
AECOM
Archaeologist
linda.kry@aecom.com
D: 213-593-8474 or 213-435-5846

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August 6, 2013

Gabrielino-Tongva Tribe
Linda Candelaria, Co-Chairperson
PO Box 180
Bonsall, CA 92003

Subject: LADWP 99th Street Wells Chloramination Station Project Cultural Resources Phase I

Dear Ms. Candelaria:

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AECOM Inc
515 South Flower Street, 8th Floor, Los Angeles, CA 90071
T 213.593.7700 F 213.593.7715 www.AECOM.com

Please contact me directly with any questions.

Very truly yours,

Linda Kry
AECOM
Archaeologist
linda.kry@aecom.com
D: 213-593-8474 or 213-435-5846

Enclosure:

1) Project Area Map
2) Response Form
3) Self-Addressed Stamped Envelope

AECOM Inc
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T 213.593.7700 F 213.593.7715 www.AECOM.com

August 6, 2013

Gabrielino Tongva Indians of California Tribal Council
Robert F. Dorame, Tribal Chair/Cultural Resources
PO Box 490
Bellflower, CA 90707

Subject: LADWP 99th Street Wells Chloramination Station Project Cultural Resources Phase I

Dear Mr. Dorame:

AECOM, Inc. has been retained by the Los Angeles Department of Water and Power to conduct Native American contact for the 99th Street Wells Chloramination Station Project Cultural Resources Phase I. The Native American Heritage Commission conducted a Sacred Lands File search for the project, and identified you as an individual who may have knowledge of cultural resources in or near the project area.

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August 6, 2013

Gabrielino Tongva Nation
Sam Dunlap, Cultural Resources Director
PO Box 86908
Los Angeles, CA 90086

Subject: LADWP 99th Street Wells Chloramination Station Project Cultural Resources Phase I

Dear Mr. Dunlap:

AECOM, Inc. has been retained by the Los Angeles Department of Water and Power to conduct Native American contact for the 99th Street Wells Chloramination Station Project Cultural Resources Phase I. The Native American Heritage Commission conducted a Sacred Lands File search for the project, and identified you as an individual who may have knowledge of cultural resources in or near the project area.

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August 6, 2013

Gabrielino/Tongva San Gabriel Band of Mission Indians
Anthony Morales, Chairperson
PO Box 693
San Gabriel, CA 91778

Subject: LADWP 99th Street Wells Chloramination Station Project Cultural Resources Phase I

Dear Mr. Morales:

AECOM, Inc. has been retained by the Los Angeles Department of Water and Power to conduct Native American contact for the 99th Street Wells Chloramination Station Project Cultural Resources Phase I. The Native American Heritage Commission conducted a Sacred Lands File search for the project, and identified you as an individual who may have knowledge of cultural resources in or near the project area.

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August 6, 2013

Tongva Ancestral Territorial Tribal Nation
John Tommy Rosas, Tribal Admin.
tattnlaw@gmail.com

Subject: LADWP 99th Street Wells Chloramination Station Project Cultural Resources Phase I

Dear Mr. Rosas:

AECOM, Inc. has been retained by the Los Angeles Department of Water and Power to conduct Native American contact for the 99th Street Wells Chloramination Station Project Cultural Resources Phase I. The Native American Heritage Commission conducted a Sacred Lands File search for the project, and identified you as an individual who may have knowledge of cultural resources in or near the project area.

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August 6, 2013

Gabrielino Band of Mission Indians
Andrew Salas, Chairperson
PO Box 393
Covina, CA 91723

Subject: LADWP 99th Street Wells Chloramination Station Project Cultural Resources Phase I

Dear Mr. Salas:

AECOM, Inc. has been retained by the Los Angeles Department of Water and Power to conduct Native American contact for the 99th Street Wells Chloramination Station Project Cultural Resources Phase I. The Native American Heritage Commission conducted a Sacred Lands File search for the project, and identified you as an individual who may have knowledge of cultural resources in or near the project area.

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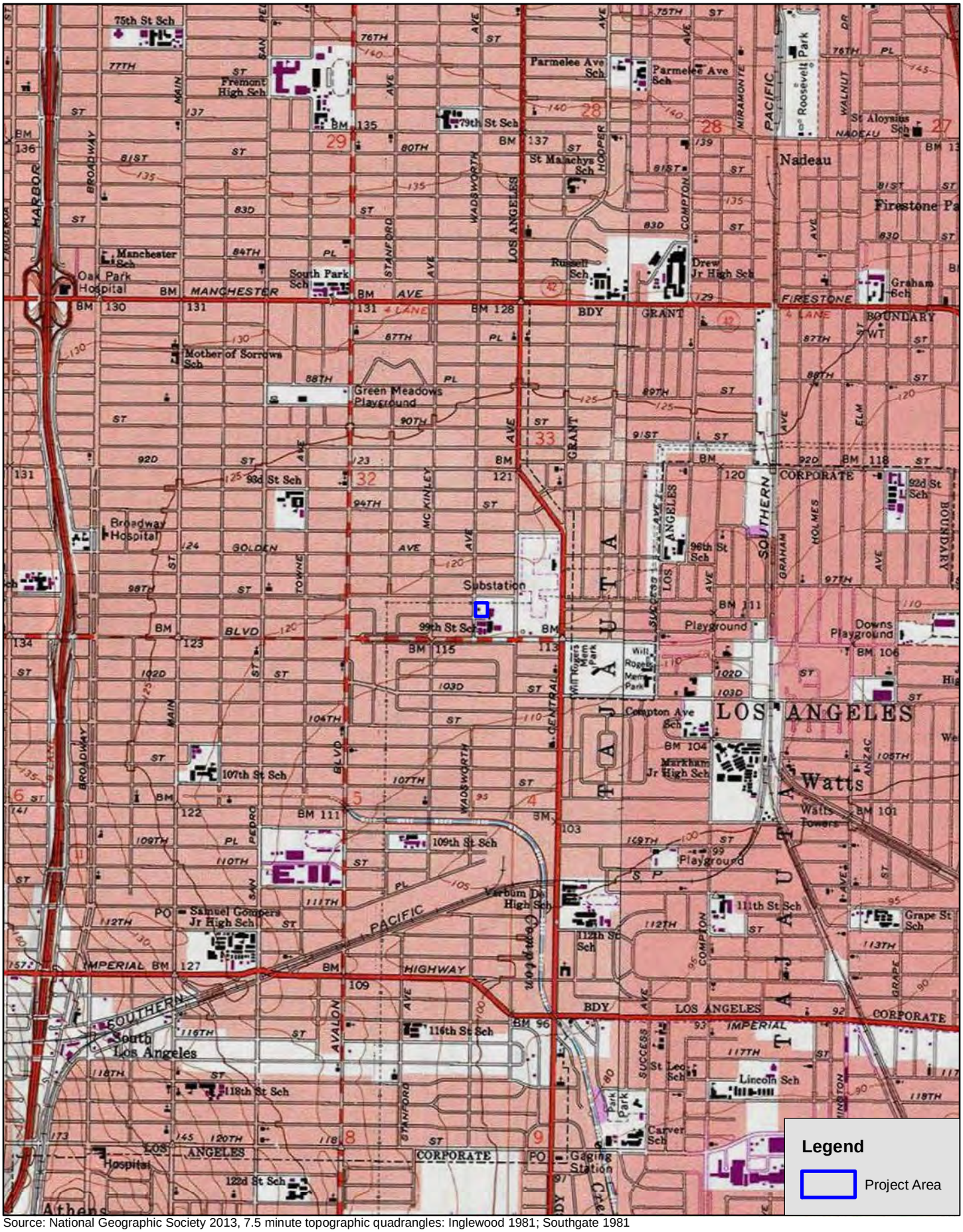

Source: National Geographic Society 2013, 7.5 minute topographic quadrangles: Inglewood 1981; Southgate 1981

Project Area Map

99th Street Chloramination Station Project

NATIVE AMERICAN RESPONSE FORM

Please circle appropriate response below.

I/We (would like) (would not like) to be contacted. You may contact me/us at the address and phone number below.

I/We (do) (do not) have concerns. They are outlined below:

_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

Please Print Name, Tribal Office/Affiliation, Address, and Phone Number

_____
_____
_____
_____
_____

_____ _____
Signature Date

Please return completed form no later than September 6, 2013 to:

Linda Kry
AECOM
515 S Flower Street
8th Floor
Los Angeles, CA 90071

APPENDIX C

DPR FORMS

(CONFIDENTIAL)

Appendix C
Traffic Technical Memorandum

KOA CORPORATION
PLANNING & ENGINEERING

1100 Corporate Center Dr., Suite 201
Monterey Park, CA 91754
t: 323-260-4703 f: 323260-4705
www.koacorporation.com

TECHNICAL MEMORANDUM

To: Kathalyn Tung - AECOM

From: Brian A. Marchetti, AICP

Date: September 3, 2013 – **DRAFT**

Subject: Traffic Study – LADWP 99th Street Chloramination Station, Los Angeles
KOA Project JB3122

This traffic analysis was conducted to determine future levels of service with the proposed construction project at six study intersections. The proposed project includes construction of a new chloramination facility within the Los Angeles Department of Water and Power (LADWP) 99th Street Well Pumping Station complex.

The proposed Project is anticipated to be completed by the year 2016. The Project construction activities would generate approximately 198 net new daily weekday trips, with approximately 28 net new a.m. peak-hour trips and 28 net new p.m. peak-hour trips. The proposed Project will not result in any permanent traffic impacts to area roadway facilities.

INTRODUCTION

This technical memorandum summarizes the results and findings of the traffic analysis conducted for the proposed chloramination project (hereinafter referred to as the "Project") to be located at 9880 Wadsworth Avenue in the Watts Community of the City of Los Angeles. The site is bordered by Wadsworth Avenue to the west, a utility right-or-way to the north, and 99th Street Elementary School to the east and south. All of the referenced figures are provided in Attachment A.

Figure 1 illustrates the location of the Project site. Vehicular access would be provided by one driveway on Wadsworth Avenue.

ANALYSIS METHODOLOGY

The general methodology and assumptions contained in this technical memorandum are based on the Los Angeles Department of Transportation (LADOT) document entitled *Traffic Study Policies and Procedures*, published in May 2012.

According to the LADOT Traffic Study Policies and Procedures, a smaller technical memorandum report is required when a project is likely to add 25 to 42 peak-hour trips. The Project construction period activity is estimated to generate 28 net a.m. peak-hour trips and 28 net p.m. peak-hour trips. As such, a technical memorandum has been prepared for this Project.

The Project study area includes the following six study intersections:

1. Central Avenue and Century Boulevard
2. Central Avenue and 108th Street (west leg)
3. Central Avenue and 108th Street (east leg)
4. Central Avenue and Imperial Highway
5. Central Avenue and I-105 Westbound on-off ramps
6. Central Avenue and I-105 Eastbound on-off ramps

The study intersection locations, with geographic reference to the Project site, are illustrated on Figure 1.

The City of Los Angeles has designated the Critical Movement Analysis (CMA) Planning methodology for the analysis of traffic operating conditions at signalized intersections. The Circular 212 method is a procedure that incorporates the effects of geometry and traffic signal operation and develops a volume-to-capacity ratio (V/C) for each separate movement, identifies those that are critical, and then combines them. The analytical base for this method is the concept that a signalized intersection has a combination of conflicting movements which must be accommodated. The output from this method is a V/C ratio and a level of service for the intersection as a whole.

Level of service (LOS) values range from LOS A to LOS F. LOS A indicates excellent operating conditions with little delay to motorists, whereas LOS F represents congested conditions with excessive vehicle delay. LOS E is typically defined as the operating "capacity" of a roadway. Table 1 defines the level of service values applied to the study intersections.

Table 1
Level of Service Definitions

LOS	Interpretation	Signalized Intersection Volume to Capacity Ratio (CMA)
A	Excellent operation. All approaches to the intersection appear quite open, turning movements are easily made, and nearly all drivers find freedom of operation.	0.000 - 0.600
B	Very good operation. Many drivers begin to feel somewhat restricted within platoons of vehicles. This represents stable flow. An approach to an intersection may occasionally be fully utilized and traffic queues start to form.	0.601 - 0.700
C	Good operation. Occasionally backups may develop behind turning vehicles. Most drivers feel somewhat restricted.	0.701 - 0.800
D	Fair operation. There are no long-standing traffic queues. This level is typically associated with design practice for peak periods.	0.801 - 0.900
E	Poor operation. Some long standing vehicular queues develop on critical approaches.	0.901 - 1.000
F	Forced flow. Represents jammed conditions. Backups from locations downstream or on the cross street may restrict or prevent movements of vehicles out of the intersection approach lanes; therefore, volumes carried are not predictable. Potential for stop-and-go type traffic flow.	Over 1.000
Source: Highway Capacity Manual, Special Report 209, Transportation Research Board, Washington D.C., and Interim Materials on Highway Capacity, NCHRP Circular 212,		

The study intersections are currently equipped with City of Los Angeles Automated Traffic Surveillance and Control (ATSAC) and Adaptive Traffic Control System (ATCS) functionality. For capacity analysis, LADOT

policies provide for a 0.07 reduction in the V/C ratio with the implementation of ATSAC, and an additional 0.03 reduction with the implementation of ATCS.

EXISTING CONDITIONS

Local Roadway Characteristics

The proposed Project would travel along Central Avenue, which has two travel lanes in each direction. On-street parking is generally permitted along Central Avenue in the study area.

The approximate daily volume Century Boulevard near the project site is 23,000 vehicles. Along Avalon Boulevard, west of the project site, the daily volume is 19,300 vehicles.

Existing Traffic Counts

KOA collected manual intersection counts at the study intersections. Intersection counts at five of the six study intersections were conducted on Wednesday, June 5, 2013 for the 7:00 a.m. to 10:00 a.m. and 3:00 p.m. to 6:00 p.m. peak periods. Traffic counts for the Central Avenue and Century Boulevard study intersection were obtained from LADOT's historical traffic count database and were increased by one percent per year to reflect 2013 conditions. The intersection traffic count sheets are included in Attachment B.

Existing Levels of Service

The results of the counts were utilized to determine existing a.m. and p.m. peak-hour traffic volume conditions. The existing level of service conditions were calculated based on the traffic count levels, intersection approach lanes, and signal phasing characteristics. Figure 2 illustrates the existing study intersection approach lane and control configurations.

As shown in Table 2, the study intersections are currently operating at LOS D or better during the a.m. and p.m. peak hours. Intersection 1 operates at LOS D during the p.m. peak hour, but at LOS C during the a.m. peak hour. Intersections 2 through 6 operate at LOS B or better.

Table 2
Intersection Level of Service – Existing (2013) Conditions

	Study Intersections	Existing (2013) Conditions			
		AM Peak Hour		PM Peak Hour	
		V/C or Delay	LOS	V/C or Delay	LOS
1	Central Avenue & Century Boulevard	0.788	C	0.870	D
2	Central Avenue & 108th Street (West Leg)	0.271	A	0.464	A
3	Central Avenue & 108th Street (East Leg)	0.240	A	0.437	A
4	Central Avenue & Imperial Highway	0.517	A	0.666	B
5	Central Avenue & I-105 Freeway WB On/Off Ramps	0.489	A	0.573	A
6	Central Avenue & I-105 Freeway EB On/Off Ramps	0.484	A	0.564	A

The existing intersection turn volumes are provided on Figures 3 and 4 for the a.m. and p.m. peak hours, respectively. The level of service calculation worksheets for all analysis scenarios are provided in Attachment C.

PROJECT TRAFFIC

This section provides definitions for truck and employee vehicle trip generation during the peak period of project construction, along with the distribution and assignment of those trips to the study area roadway network. To evaluate a worst-case scenario for construction trip generation of the proposed Project, it is assumed that each employee will drive to and from work with some carpooling.

This is a planning-level analysis of construction activity, used for the purposes of determining LOS during the project construction period. Prior to initiating construction, a detailed construction plan will be developed by the construction manager to identify necessary resources and to define the construction supervisory and technical field organization and staffing levels required for the project. The methods and procedures for sequencing and implementing construction operations will also be detailed in the construction plan. In addition, a project safety program will be developed by the operator, consistent with federal and state requirements. This is a standard LADWP procedural requirement.

Therefore, basic construction details defined for the project planning process have been used to analyze potential construction-period impacts.

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.

In converting trucks to passenger car equivalents, a Passenger Car Equivalent (PCE) factor of 2.5 was assumed. This factoring was used to increase truck volumes due to the additional roadway space and design capacity utilized by larger and slower trucks. The applied value matches typical factors used in area studies that include trips generated by trucking activities. The factor is based on conservative factors defined by the Southern California Association of Governments (SCAG) Heavy Duty Truck Model.

For construction, the maximum number of employees on the project site would be 20. The maximum number of daily trucks would 33, which would occur in Phase 2, during construction of the chloramination station and installation of piping.

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 construction site by 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 site 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. End-of-workday trips were assumed to overlap the traditional peak of street traffic during the 4:00 p.m. to 6:00 p.m. time period.

As indicated by Table 3, project construction would generate a daily total of 198 passenger car equivalent trips, with 28 (18+10) trips occurring during the a.m. peak hour and 28 (10+8) trips occurring during the p.m. peak hour.

Table 3 – 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	33	33	0	0	8	0	8	0	0	0	0	8	0	8
Contruction Truck	165	0	165	10	10	0	0	10	10	10	10	0	0	10	10
TOTAL TRIPS	**165**	**33**	**198**	**10**	**10**	**8**	**0**	**18**	**10**	**10**	**10**	**0**	**8**	**10**	**18**

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

Field Personnel - Assumed 50% of the construction work crew would travel to and from the site during peak hours, with an average vehicle occupancy of 1.2 based on expected carpooling rates.

Trucks - A peak of 33 daily construction truck trips in the peak quarter. Daily totals were multipled by the PCE factor, and peak hour trips were based on total PCEs divided by an eight-hour shift.

Proposed Construction Methods

Construction of the proposed project is anticipated to begin in fall 2014 and take approximately two years to complete, concluding in fall 2016. The proposed 99th Street Wells Chloramination Station is expected to be operational by spring 2017.

To accomplish all the elements of the proposed project, the delivery of construction equipment, materials, and supplies to the 99th Street Wells Pumping Station complex would be required. Vehicles required for the project construction include backhoes, grader, compactor, concrete truck, drill rig, excavators, crane, front end loader, forklifts, and water trucks.

Recurrent deliveries would include material and components required for the chloramination station construction, pipe segments for new water line connections, and concrete for various elements of the project. The excavation and demolition of the chlorination station on the project site would also create truck trips for transferring the excavation material and removing the debris from the project site for off-site disposal. The chloramination station construction would create up to approximately 1,700 cubic yards (CY) of excavated material and approximately 230 CY of demolition material and debris. Additionally, approximately 300 CY of concrete would be delivered to the project site.

Construction activity would occur Monday through Friday from approximately 7:00 a.m. to 3:30 p.m.

Construction Project Trip Distribution

The distribution of construction truck trips was assumed to be primarily freeway-oriented. Truck trips were primarily assigned to the I-105 freeway, south of the study area, via Central Avenue.

The distribution pattern for analyzed employee trips assumed that employees would arrive on-site primarily from the I-105 freeway via Central Avenue. A total of 70 percent was distributed to and from the I-105 freeway.

The regional trip distribution pattern is summarized below and illustrated on Figure 5.

- North – 5%
- East – 43%
- West – 42%
- South – 10%

Based on the trip generation and distribution assumptions described above, the Project traffic was assigned to the roadway system based on the proposed driveway location and the roadways that would likely be used to access the regional highway system. The Project trip assignment is illustrated on Figures 6 and 7 for the a.m. and p.m. peak hours, respectively

FUTURE 2016 TRAFFIC CONDITIONS

The following section summarizes traffic conditions at the six study intersections under both future without-Project and with-Project scenarios. The year 2016 was selected for analysis based on the anticipated completion of the construction of the proposed Project.

Future without-Project Conditions

The future traffic forecasts include an ambient growth rate of two percent per year which was applied to the existing peak-hour counts. The rate is consistent with the generally applied traffic growth rate of one percent, doubled to account for planned local development projects.

The future without-Project level of service analysis was conducted for the six study intersections. As shown by the data in Table 4, five of the six study intersections would continue to operate at LOS D or better during the a.m. and p.m. peak hours. The Central Avenue and Century Boulevard intersection is expected to operate at LOS E during the p.m. peak hour, but at LOS D during the a.m. peak hour.

The future without-Project traffic volumes are provided on Figures 8 and 9 for the weekday a.m. and p.m. peak hours, respectively.

Table 4
Intersection Level of Service – Future without Project Conditions

	Study Intersections	Future Without Project			
		AM Peak Hour		PM Peak Hour	
		V/C or Delay	LOS	V/C or Delay	LOS
1	Central Avenue & Century Boulevard	0.842	D	0.930	**E**
2	Central Avenue & 108th Street (West Leg)	0.294	A	0.498	A
3	Central Avenue & 108th Street (East Leg)	0.260	A	0.470	A
4	Central Avenue & Imperial Highway	0.555	A	0.713	C
5	Central Avenue & I-105 Freeway WB On/Off Ramps	0.525	A	0.614	B
6	Central Avenue & I-105 Freeway EB On/Off Ramps	0.520	A	0.604	B

Future with-Project Conditions

The Project trip assignment pattern defined by Figures 6 and 7 was added to the future without-Project traffic forecasts to estimate future with-Project traffic volumes. Figures 10 and 11 provide the future with Project traffic volumes for the weekday a.m. and p.m. peak hours, respectively. The future with-Project level of service analysis results are summarized in Table 5.

Five of the six study intersections would continue to operate at LOS D or better during the a.m. and p.m. peak hours. The Central Avenue and Century Boulevard intersection is expected to operate at LOS E during the p.m. peak hour. Project construction would worsen operations within LOS E at that location, but not to an extent that would be considered significant under City of Los Angeles traffic study guidelines. LOS E conditions also indicate that there is remaining capacity available.

Table 5
Intersection Level of Service – Future with Project Conditions

	Study Intersections	Future With Project			
		AM Peak Hour		PM Peak Hour	
		V/C or Delay	LOS	V/C or Delay	LOS
1	Central Avenue & Century Boulevard	0.856	D	0.938	**E**
2	Central Avenue & 108th Street (West Leg)	0.297	A	0.504	A
3	Central Avenue & 108th Street (East Leg)	0.266	A	0.473	A
4	Central Avenue & Imperial Highway	0.561	A	0.716	C
5	Central Avenue & I-105 Freeway WB On/Off Ramps	0.531	A	0.620	B
6	Central Avenue & I-105 Freeway EB On/Off Ramps	0.523	A	0.608	B

PROJECT TRAFFIC IMPACTS

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.

Daily roadway and peak-hour volumes have been analyzed to achieve an understanding of the magnitude of potential roadway lane closures during construction, and significant impacts have not been identified.

Capacity will be potentially constricted along Wadsworth Avenue, during inbound/outbound truck movements, for vehicles movements adjacent to the project site. To help mitigate potentially significant traffic flow impacts in Wadsworth Avenue, it is recommended that flagpersons be present within the roadway during major truck movements.

There does not appear to be a need for manual traffic control along haul routes, or area detours, during the construction period. Caltrans should be contacted to obtain permits for the transport of over-sized loads, to obtain encroachment permits, if necessary.

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 at the project site

The City of Los Angeles will require construction worksite traffic control plans, to reduce any potential temporary Project construction impacts at the site access point. The Project will not generate any new measurable and regular vehicle trips during the operations period, and long-term mitigation measures are therefore not recommended.

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ATTACHMENT A
STUDY FIGURES

Figure 1 – Project Study Area

Figure 2 – Study Intersection Geometries

Figure 3 – Existing AM Peak Hour Traffic Volumes

Figure 4 – Existing PM Peak Hour Traffic Volumes

Figure 5 – Project Trip Distribution Percentages

Figure 6 – Project Trip Assignment – AM Peak Hour Traffic Volumes

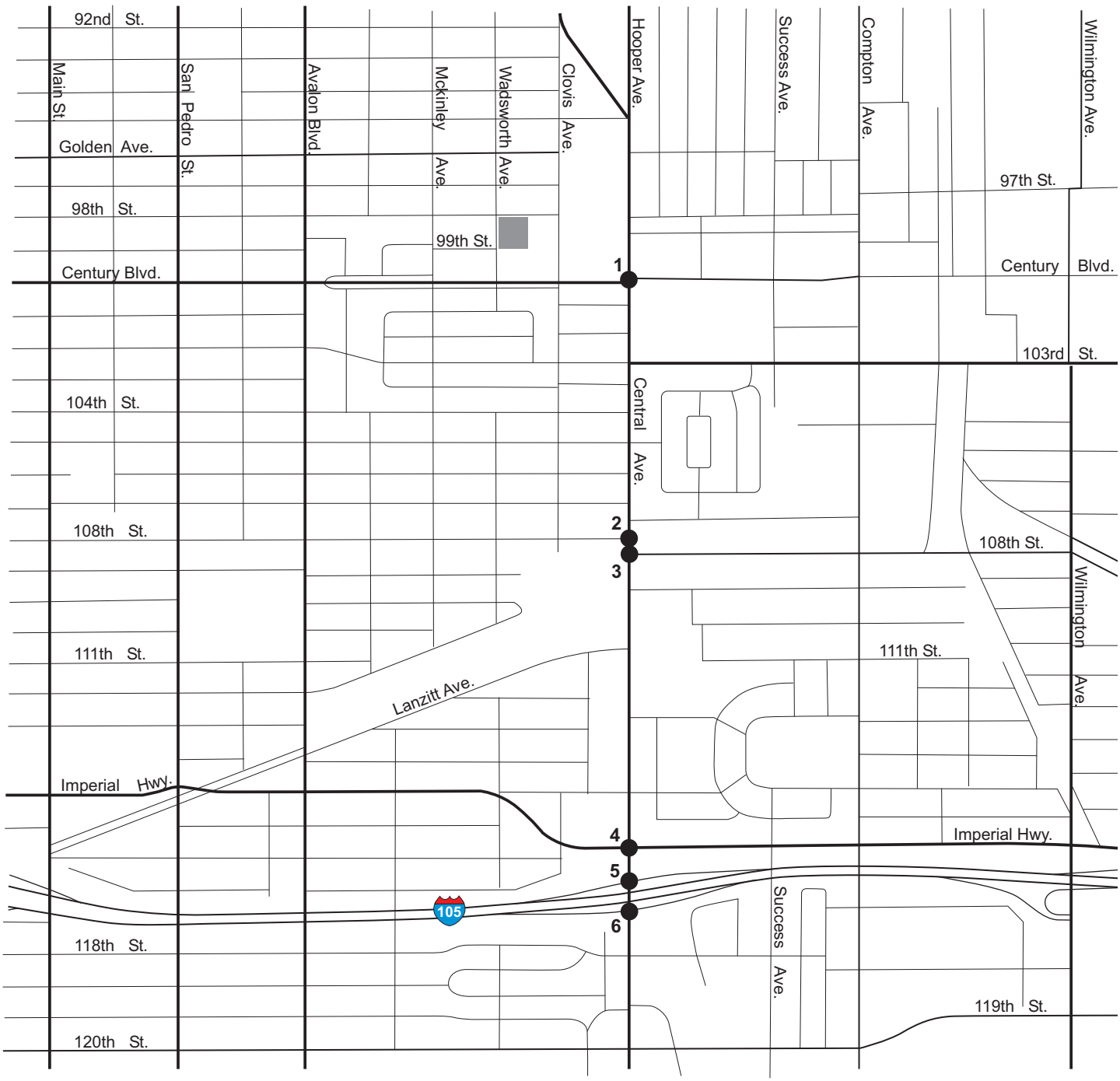
Figure 7 – Project Trip Assignment – PM Peak Hour Traffic Volumes

Figure 8 – Future (2016) Without Project – AM Peak Hour Traffic Volumes

Figure 9 – Future (2016) Without Project – PM Peak Hour Traffic Volumes

Figure 10 – Future (2016) With Project – AM Peak Hour Traffic Volumes

Figure 11 – Future (2016) With Project – PM Peak Hour Traffic Volumes



LEGEND

- Project Site Location
- Study Intersection

8/26/13

N

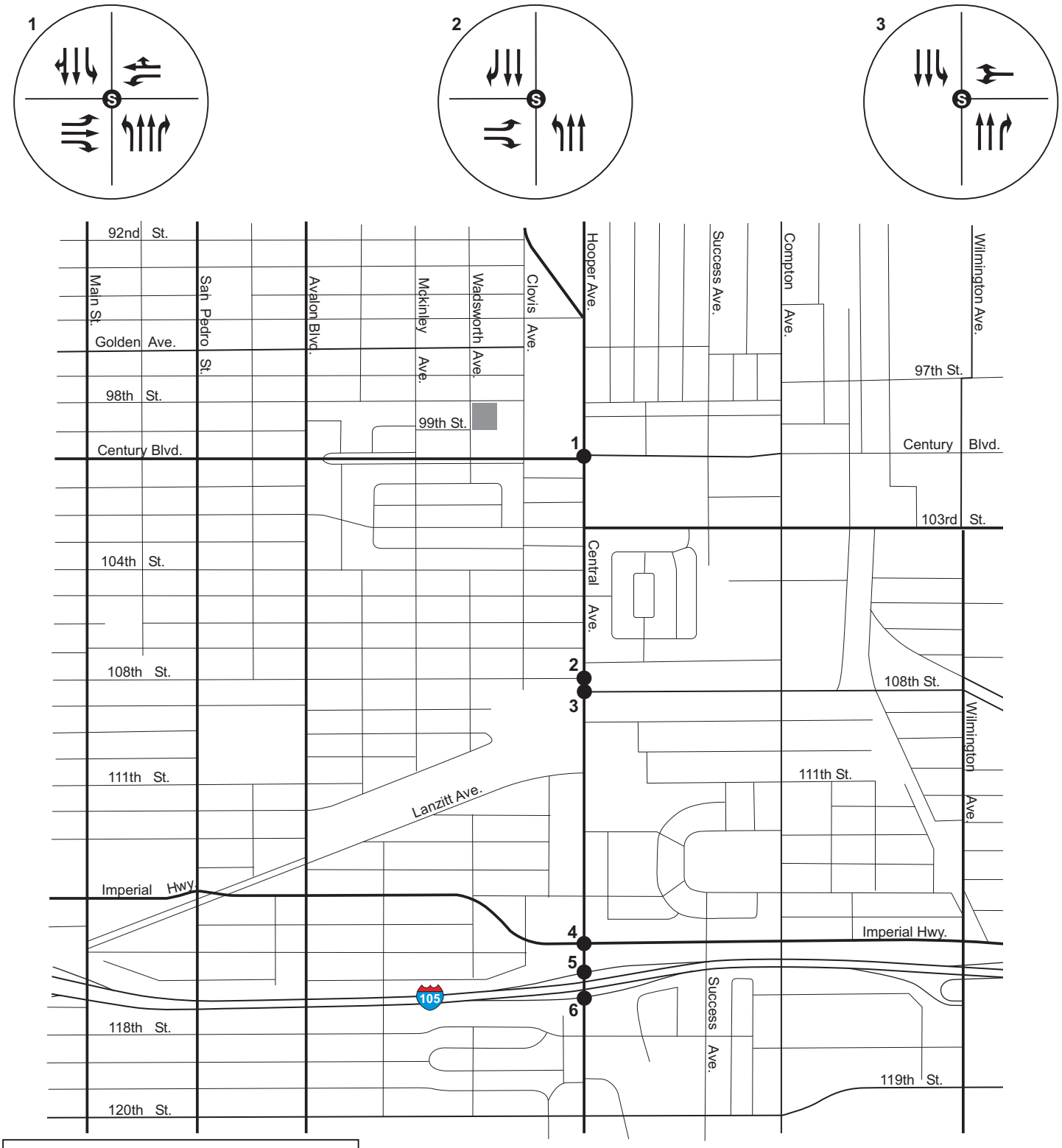
Not to Scale

KOA CORPORATION
PLANNING & ENGINEERING

LADWP 99th St Chloramination Facility EIR

Figure 1

Project Study Area



LEGEND

- Project Site Location
- Study Intersection
- Signalized Intersection
- Stop Sign Controlled Intersection
- Stop Sign
- Intersection Lane Geometry

8/26/13

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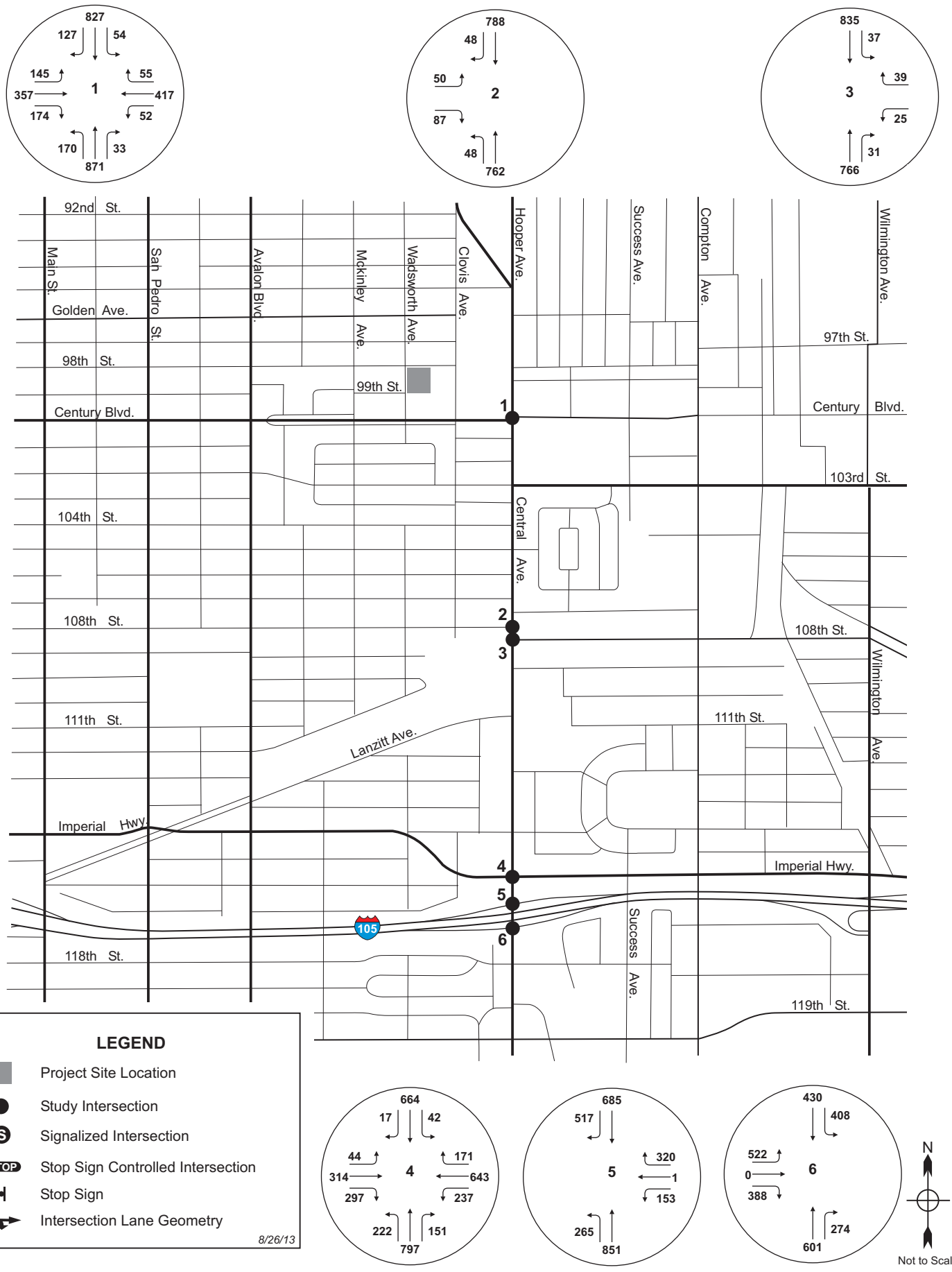
LADWP 99th St Chloramination Facility EIR

Figure 2

Study Intersection Geometries



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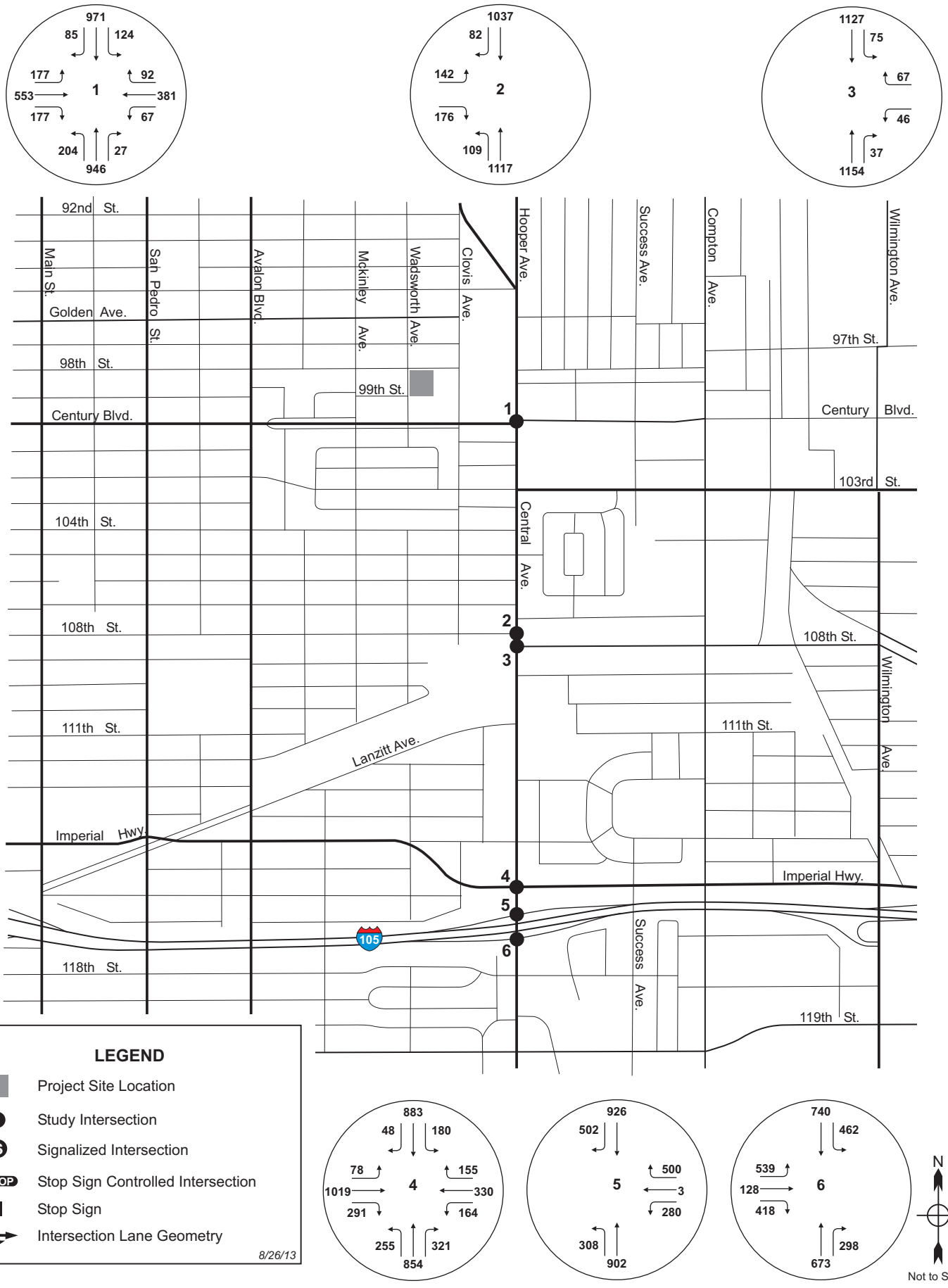
LADWP 99th St Chloramination Facility EIR — Figure 3

Existing (2013) AM Peak Hour Traffic Volumes



LEGEND

- Project Site Location
- Study Intersection
- Signalized Intersection
- Stop Sign Controlled Intersection
- Stop Sign
- Intersection Lane Geometry

8/26/13

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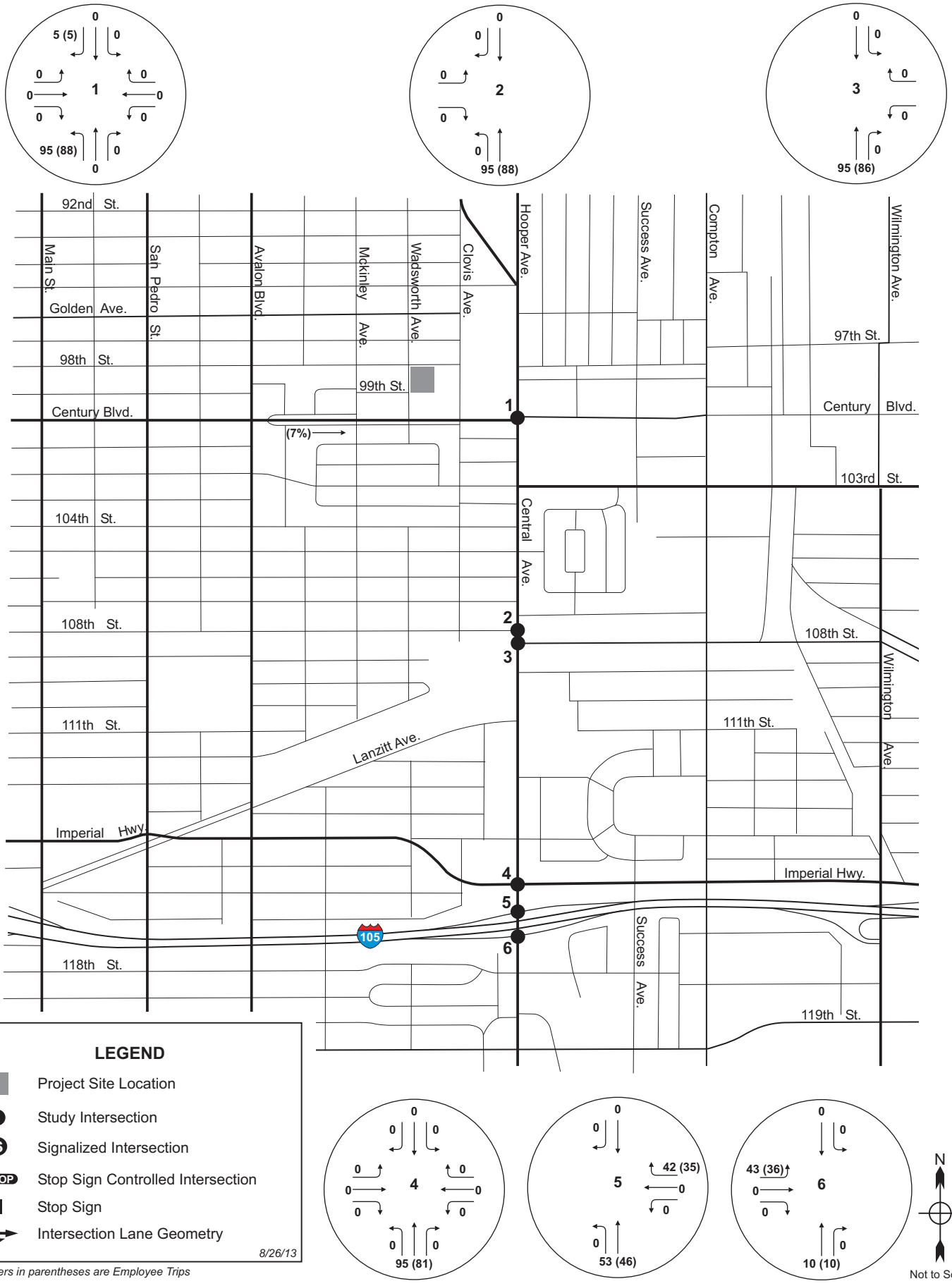
LADWP 99th St Chloramination Facility EIR — Figure 4

Existing (2013) PM Peak Hour Traffic Volumes



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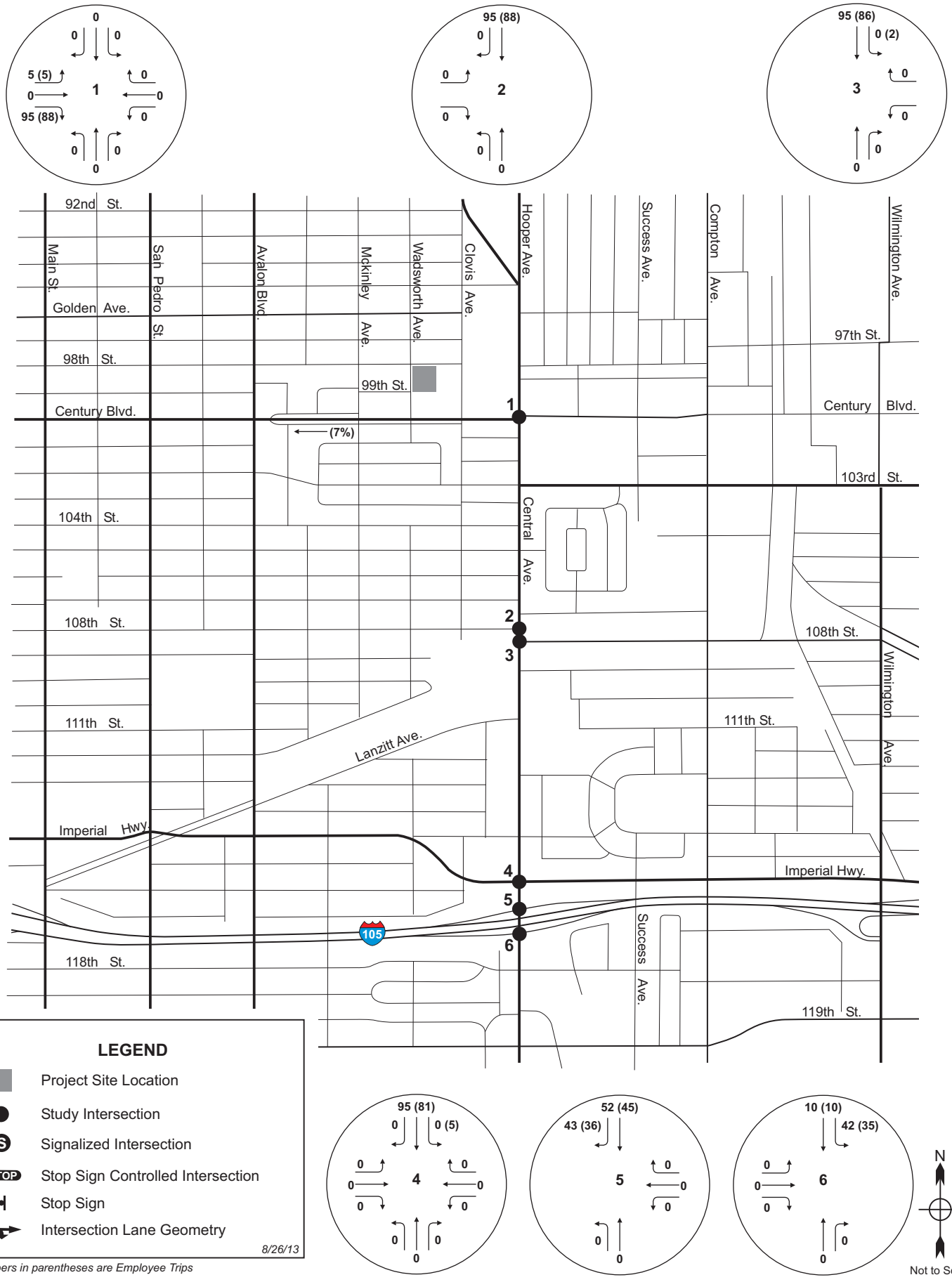
LADWP 99th St Chloramination Facility EIR — Figure 5A

Project Trip Distribution Inbound Trips



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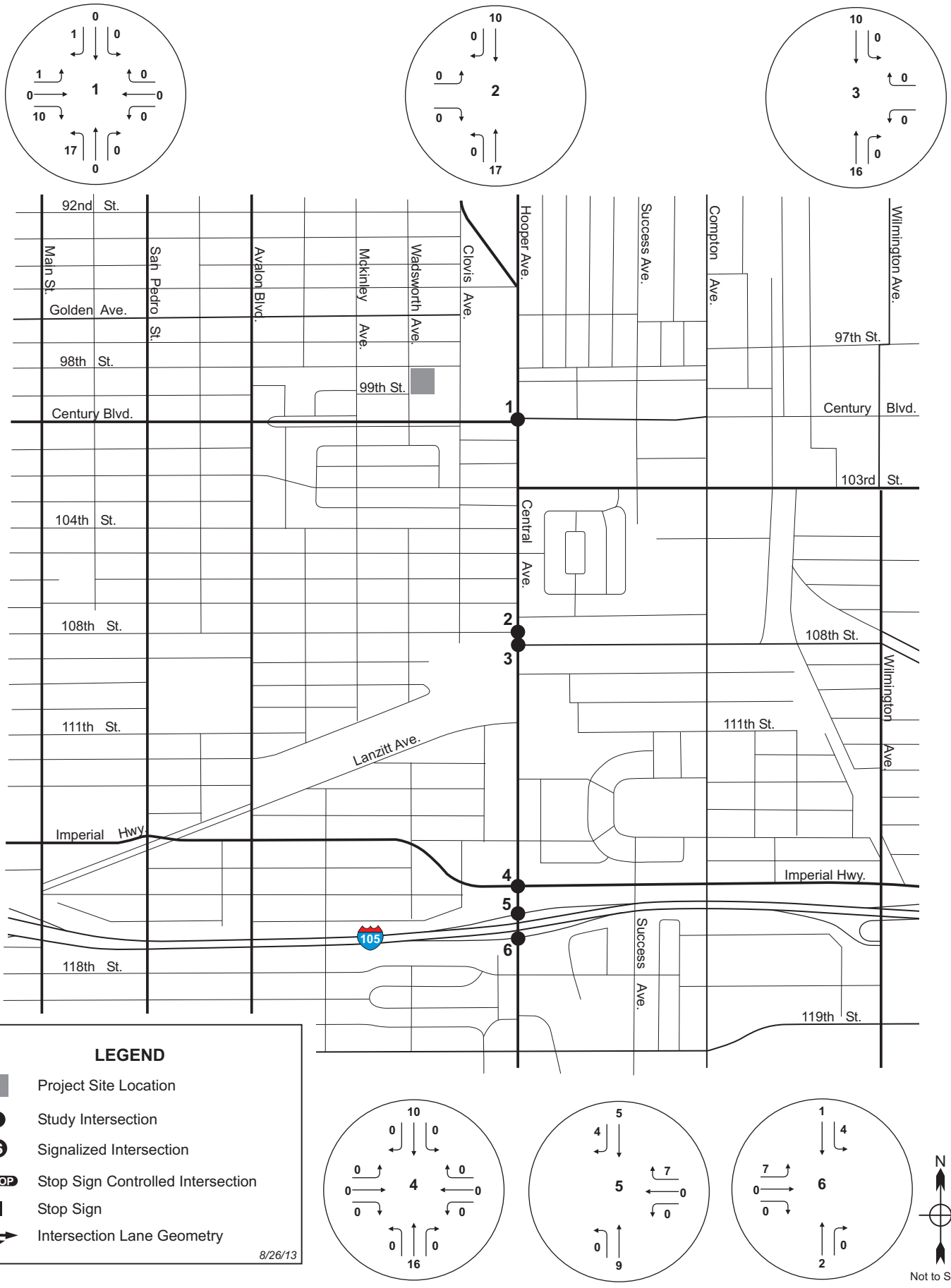
LADWP 99th St Chloramination Facility EIR — Figure 5B

Project Trip Distribution Outbound Trips



KOA CORPORATION
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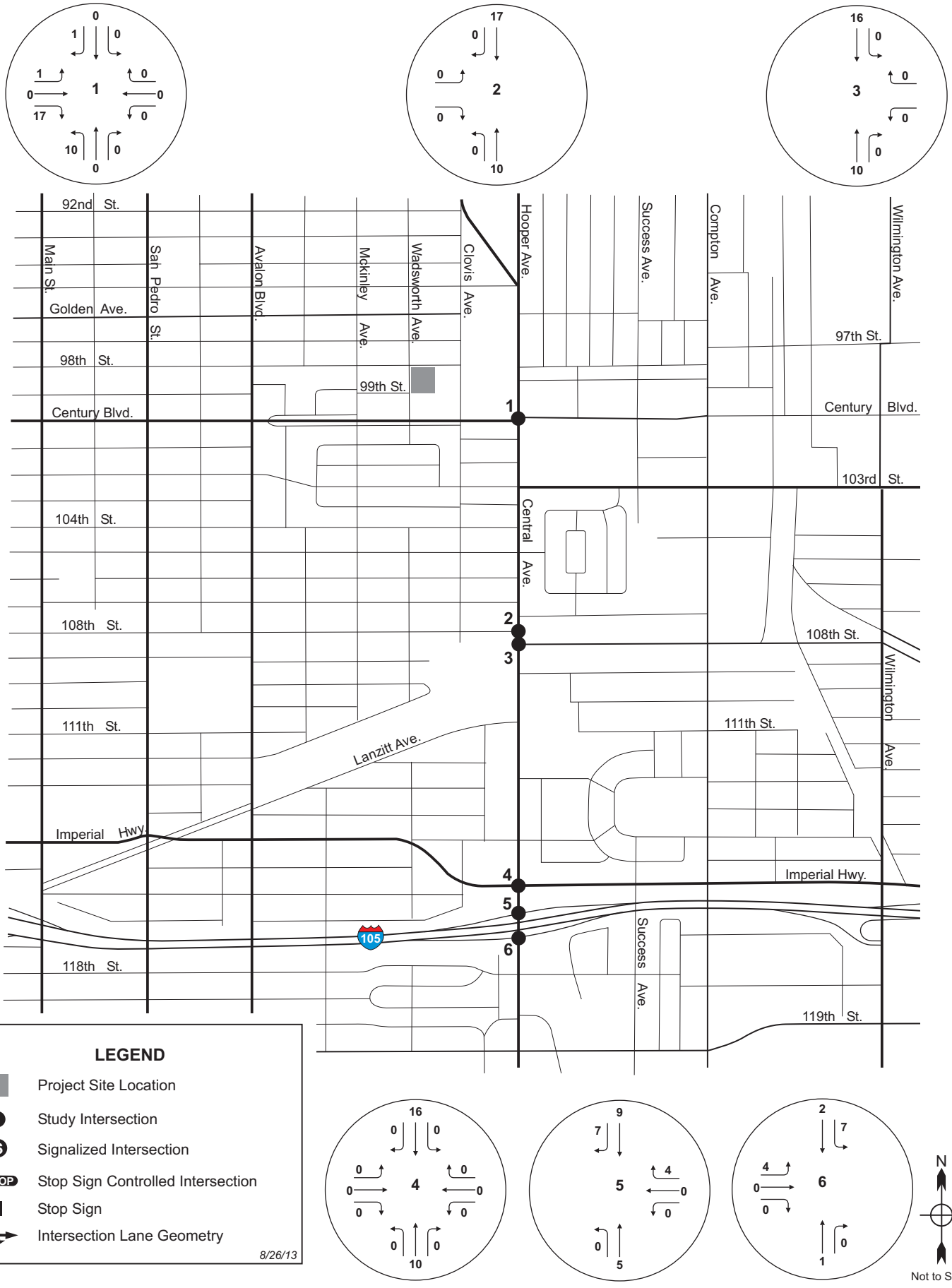
LADWP 99th St Chloramination Facility EIR — Figure 6

Project Trip Assignment - AM Peak Hour Traffic Volumes



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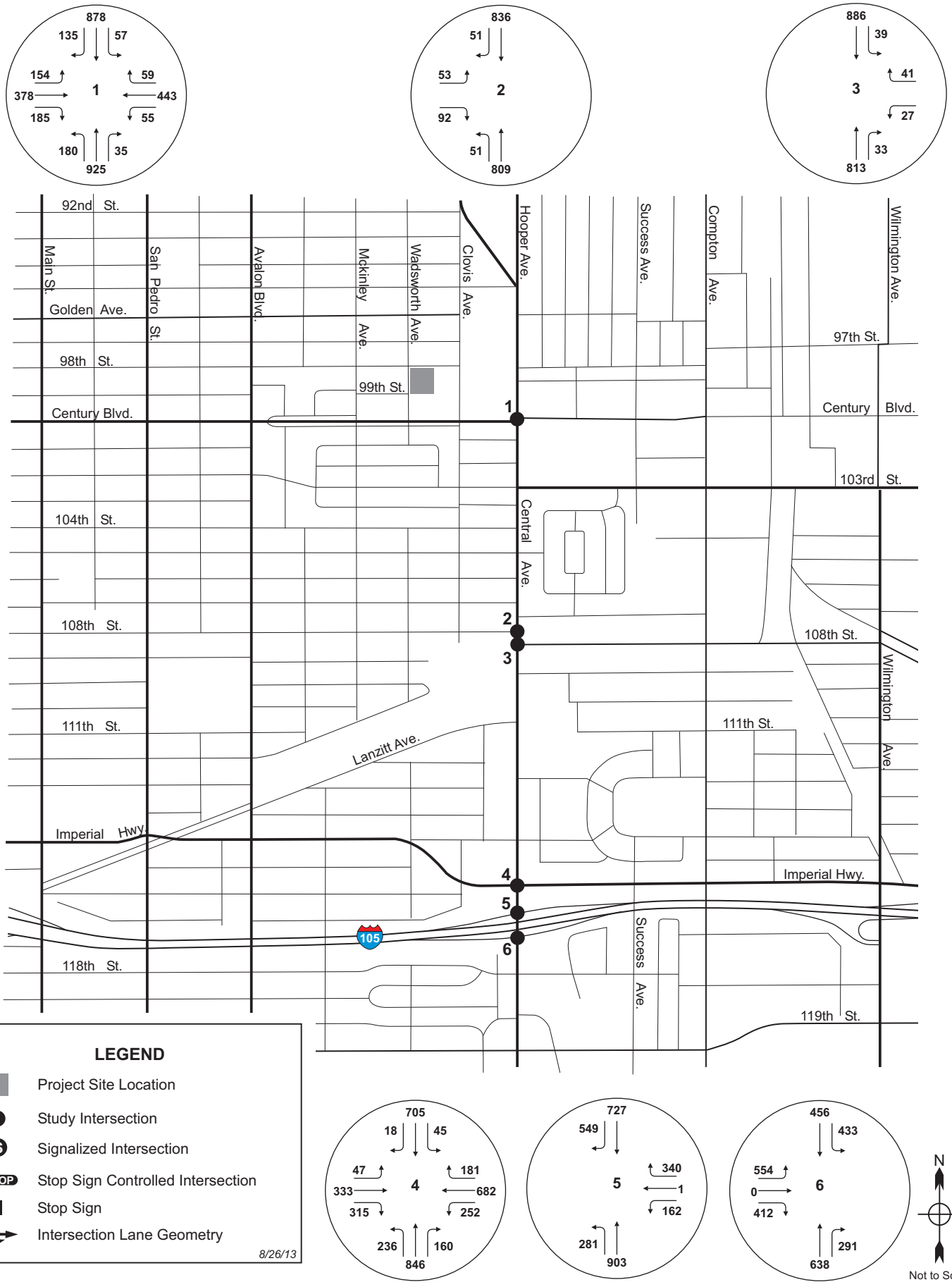
LADWP 99th St Chloramination Facility EIR — Figure 7

Project Trip Assignment - PM Peak Hour Traffic Volumes



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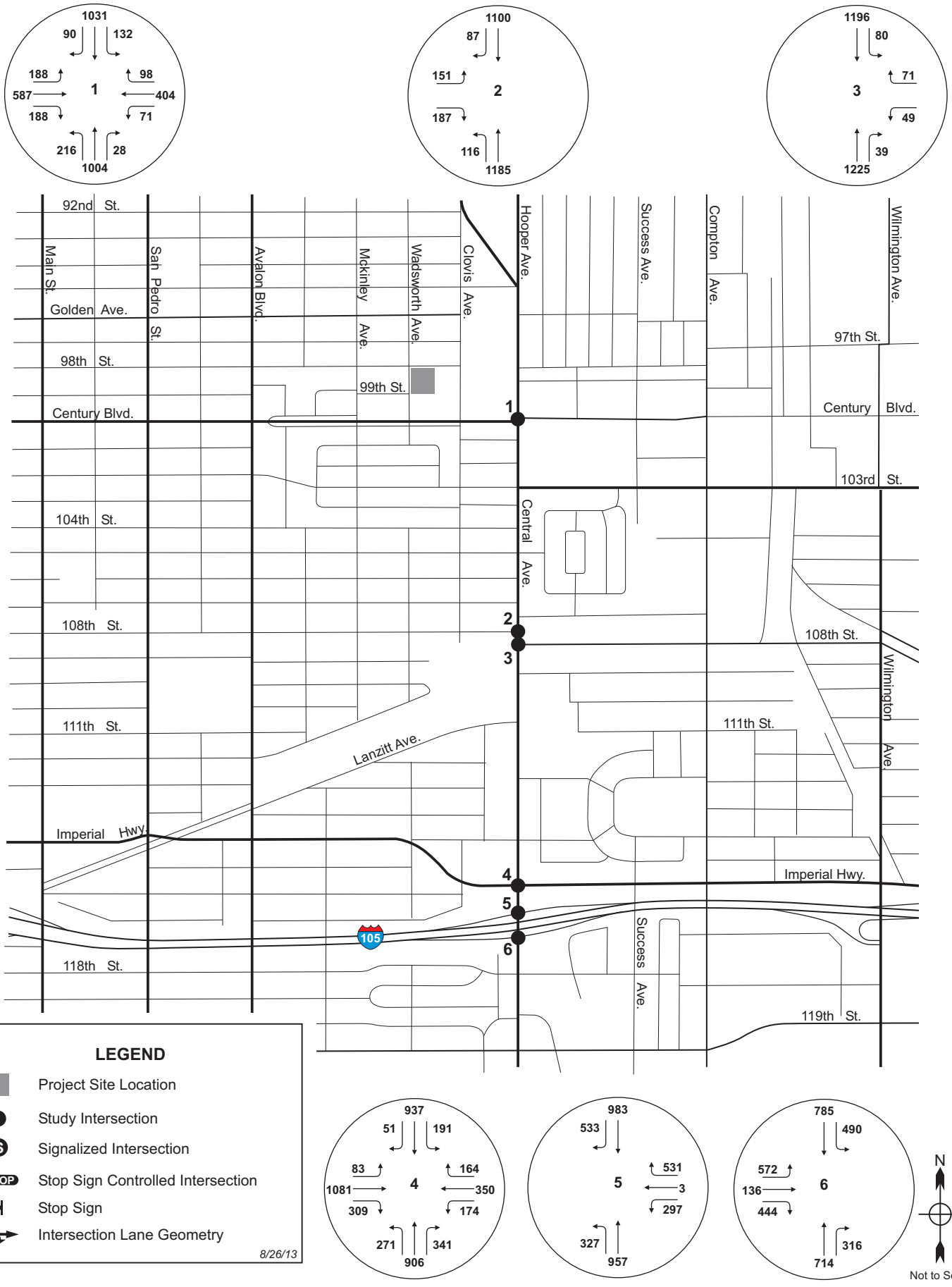
LADWP 99th St Chloramination Facility EIR — Figure 8

Future (2016) Without Project - AM Peak Hour Traffic Volumes



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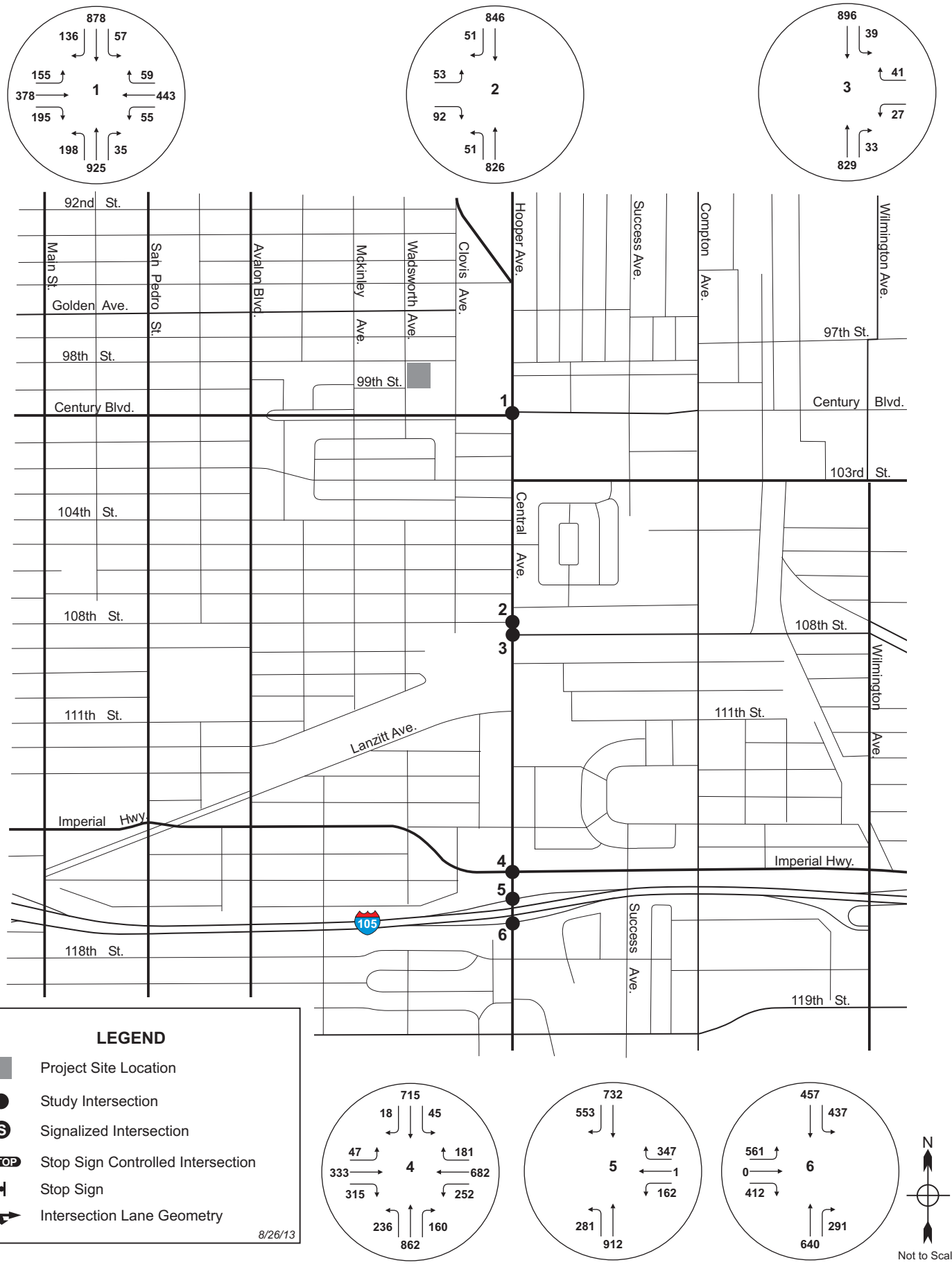
LADWP 99th St Chloramination Facility EIR — Figure 9

Future (2016) Without Project - PM Peak Hour Traffic Volumes



KOA CORPORATION
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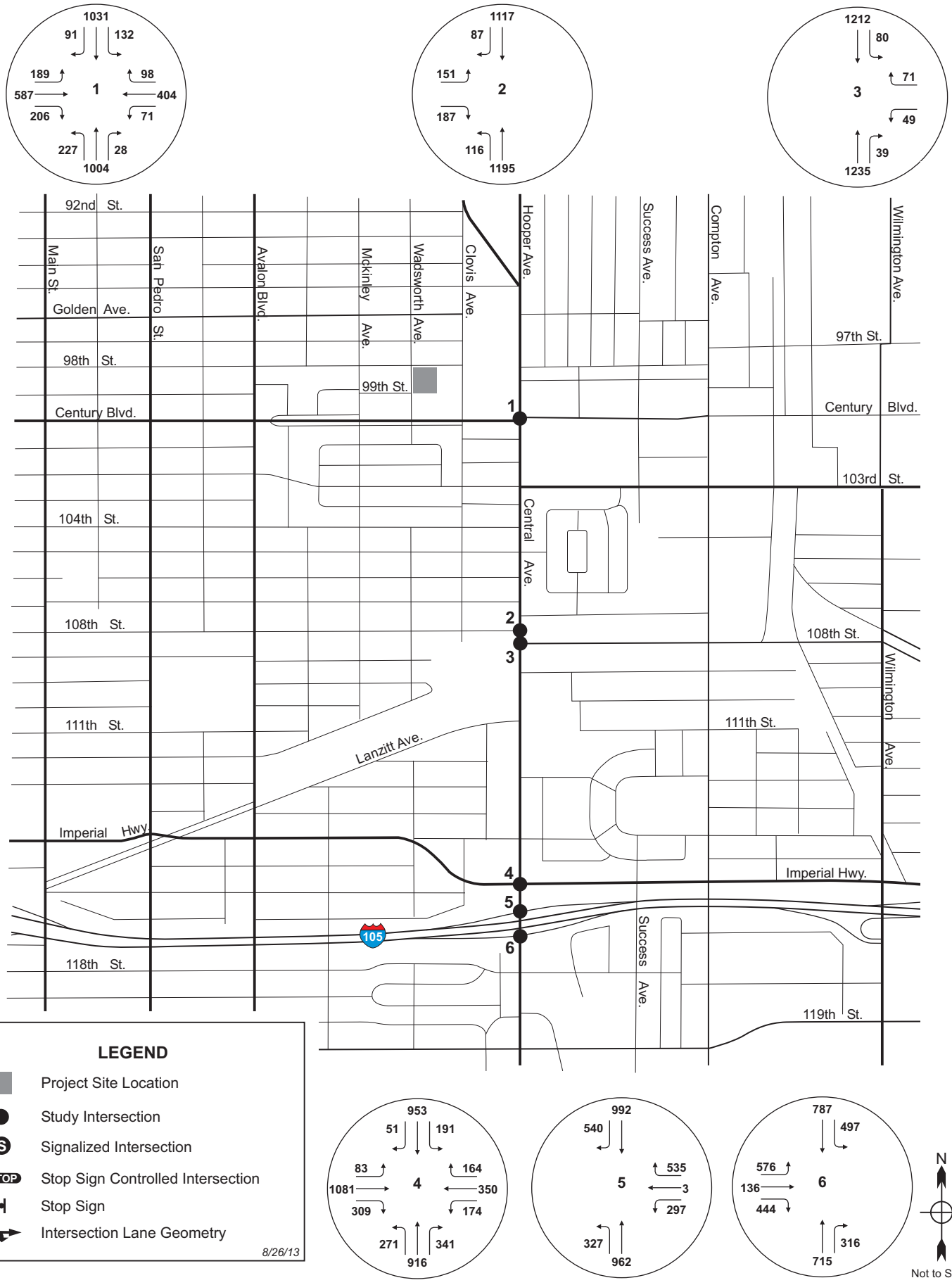
LADWP 99th St Chloramination Facility EIR — Figure 10

Future (2016) With Project - AM Peak Hour Traffic Volumes



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LADWP 99th St Chloramination Facility EIR — Figure 11

Future (2016) With Project - PM Peak Hour Traffic Volumes

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ATTACHMENT B

INTERSECTION TRAFFIC COUNTS

City Of Los Angeles
Department Of Transportation

MANUAL TRAFFIC COUNT SUMMARY

STREET:

North/South CENTRAL AV

East/West CENTURY BL

Day: FRIDAY Date: February 9, 2007 Weather: CLEAR

Hours: 7-10AM 3-6PM

School Day: YES District: SOUTHERN I/S CODE 1406014080

	N/B	S/B	E/B	W/B
DUAL-WHEELED	181	160	115	70
BIKES	10	21	13	4
BUSES	58	42	0	15

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	267	7.30	293	7.45	192	7.30	149	7.45
PM PK 15 MIN	304	5.45	298	4.30	224	5.30	142	4.45
AM PK HOUR	1012	7.00	996	7.15	685	7.30	541	7.15
PM PK HOUR	1108	5.00	1138	4.15	855	5.00	531	4.00

NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	160	821	31	1012
8-9	124	709	43	876
9-10	103	532	28	663
3-4	146	855	42	1043
4-5	150	838	58	1046
5-6	192	891	25	1108
TOTAL	875	4646	227	5748

SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	51	779	120	950
8-9	54	600	53	707
9-10	46	465	47	558
3-4	72	745	79	896
4-5	116	893	121	1130
5-6	117	915	80	1112
TOTAL	456	4397	500	5353

TOTAL	**XING S/L**		**XING N/L**	
N-S	Ped	Sch	Ped	Sch
1962	8	4	6	7
1583	11	0	16	0
1221	24	0	6	0
1939	14	9	11	1
2176	28	22	21	0
2220	38	6	5	0
11101	123	41	65	8

EASTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	137	336	164	637
8-9	102	348	126	576
9-10	85	255	94	434
3-4	124	416	161	701
4-5	145	478	170	793
5-6	167	521	167	855
TOTAL	760	2354	882	3996

WESTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	49	393	52	494
8-9	55	330	63	448
9-10	55	241	43	339
3-4	56	337	53	446
4-5	70	381	80	531
5-6	63	359	87	509
TOTAL	348	2041	378	2767

TOTAL	**XING W/L**		**XING E/L**	
E-W	Ped	Sch	Ped	Sch
1131	5	9	18	3
1024	9	0	19	0
773	12	0	16	1
1147	11	13	23	3
1324	3	4	39	2
1364	5	2	24	0
6763	45	28	139	9

(Rev Oct 06)

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA13_5312_001

Day: WEDNESDAY

City: City of Los Angeles

Date: 6/5/2013

AM

NS/EW Streets:	Central Ave			Central Ave			108th St (W)			108th St (W)			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	0	3	0	1	1	0	0	0	0	
7:00 AM	6	182			154	5	13		11				371
7:15 AM	3	185			236	10	8		22				464
7:30 AM	15	201			204	10	8		22				460
7:45 AM	16	194			173	20	17		26				446
8:00 AM	14	182			175	8	17		17				413
8:15 AM	16	199			173	19	19		20				446
8:30 AM	15	198			194	18	13		20				458
8:45 AM	16	210			161	22	12		25				446
9:00 AM	17	176			164	15	20		25				417
9:15 AM	12	178			183	16	13		27				429
9:30 AM	18	196			191	14	9		15				443
9:45 AM	18	152			163	19	26		22				400
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	166	2253	0	0	2171	176	175	0	252	0	0	0	5193
APPROACH %'s :	6.86%	93.14%	0.00%	0.00%	92.50%	7.50%	40.98%	0.00%	59.02%				
PEAK HR START TIME :	715 AM												TOTAL
PEAK HR VOL :	48	762	0	0	788	48	50	0	87	0	0	0	1783
PEAK HR FACTOR :		0.938			0.850			0.797			0.000		0.961

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA13_5312_001

Day: WEDNESDAY

City: City of Los Angeles

Date: 6/5/2013

PM

NS/EW Streets:	Central Ave			Central Ave			108th St (W)			108th St (W)			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	0	3	0	1	1	0	0	0	0	
3:00 PM	24	214			240	24	33		30				565
3:15 PM	29	283			264	21	36		51				684
3:30 PM	27	272			234	21	32		48				634
3:45 PM	28	302			285	19	34		33				701
4:00 PM	25	260			254	21	40		44				644
4:15 PM	25	269			235	17	23		48				617
4:30 PM	28	260			231	24	33		36				612
4:45 PM	25	291			219	38	36		50				659
5:00 PM	19	276			241	17	34		33				620
5:15 PM	17	273			238	29	46		34				637
5:30 PM	28	255			221	29	32		34				599
5:45 PM	36	265			251	21	22		28				623
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	311	3220	0	0	2913	281	401	0	469	0	0	0	7595
APPROACH %'s :	8.81%	91.19%	0.00%	0.00%	91.20%	8.80%	46.09%	0.00%	53.91%				
PEAK HR START TIME :	315 PM												TOTAL
PEAK HR VOL :	109	1117	0	0	1037	82	142	0	176	0	0	0	2663
PEAK HR FACTOR :		0.929			0.920			0.914			0.000		0.950

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA13_5312_002

Day: WEDNESDAY

City: City of Los Angeles

Date: 6/5/2013

AM

NS/EW Streets:	Central Ave			Central Ave			108th St (E)			108th St (E)			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	3	0	1	2	0	0	0	0	0	1	0	
7:00 AM		191	6	6	160					5		3	371
7:15 AM		179	8	7	250					4		3	451
7:30 AM		200	6	7	216					6		13	448
7:45 AM		202	10	13	188					6		11	430
8:00 AM		185	7	10	181					9		12	404
8:15 AM		205	11	10	185					2		10	423
8:30 AM		200	9	7	205					13		16	450
8:45 AM		212	6	14	177					7		12	428
9:00 AM		180	11	14	173					9		15	402
9:15 AM		184	10	15	194					9		8	420
9:30 AM		202	9	13	191					18		12	445
9:45 AM		154	14	11	176					12		13	380
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	2294	107	127	2296	0	0	0	0	100	0	128	5052
APPROACH %'s :	0.00%	95.54%	4.46%	5.24%	94.76%	0.00%				43.86%	0.00%	56.14%	
PEAK HR START TIME :	715 AM												TOTAL
PEAK HR VOL :	0	766	31	37	835	0	0	0	0	25	0	39	1733
PEAK HR FACTOR :		0.940			0.848			0.000			0.762		0.961

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA13_5312_002

Day: WEDNESDAY

City: City of Los Angeles

Date: 6/5/2013

PM

NS/EW Streets:	Central Ave			Central Ave			108th St (E)			108th St (E)			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	3	0	1	2	0	0	0	0	0	1	0	
3:00 PM		228	14	20	256					6		16	540
3:15 PM		290	3	23	286					9		17	628
3:30 PM		287	12	13	272					7		14	605
3:45 PM		308	12	19	294					17		18	668
4:00 PM		269	10	20	275					13		18	605
4:15 PM		273	9	23	263					13		19	600
4:30 PM		278	11	18	250					8		14	579
4:45 PM		293	14	23	249					19		19	617
5:00 PM		284	8	21	251					14		9	587
5:15 PM		271	5	21	250					21		21	589
5:30 PM		266	17	14	243					4		19	563
5:45 PM		291	15	19	259					9		9	602
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	3338	130	234	3148	0	0	0	0	140	0	193	7183
APPROACH %'s :	0.00%	96.25%	3.75%	6.92%	93.08%	0.00%				42.04%	0.00%	57.96%	
PEAK HR START TIME :	315 PM												TOTAL
PEAK HR VOL :	0	1154	37	75	1127	0	0	0	0	46	0	67	2506
PEAK HR FACTOR :		0.930			0.960			0.000			0.807		0.938

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA13_5312_003

Day: WEDNESDAY

City: City of Los Angeles

Date: 6/5/2013

AM

NS/EW Streets:	Central Ave			Central Ave			Imperial Hwy			Imperial Hwy			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	2	2	1	2	3	0	2	3	3	2	3	0	
7:00 AM	50	179	21	13	181	4	6	66	75	59	148	37	839
7:15 AM	60	190	37	13	178	3	5	66	76	58	185	50	921
7:30 AM	59	227	38	10	149	3	14	83	78	73	163	45	942
7:45 AM	57	194	42	7	154	4	11	79	74	57	162	47	888
8:00 AM	46	186	34	12	183	7	14	86	69	49	133	29	848
8:15 AM	39	170	27	18	140	9	13	69	59	50	101	24	719
8:30 AM	39	177	35	19	177	5	9	68	61	46	112	28	776
8:45 AM	37	146	26	15	140	5	11	69	69	32	68	30	648
9:00 AM	56	158	19	12	173	6	10	47	38	32	73	18	642
9:15 AM	43	160	25	14	141	9	6	43	59	31	66	30	627
9:30 AM	38	136	28	9	159	5	10	57	48	29	71	16	606
9:45 AM	39	129	24	10	141	2	12	56	52	35	67	27	594
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	563	2052	356	152	1916	62	121	789	758	551	1349	381	9050
APPROACH %'s :	18.95%	69.07%	11.98%	7.14%	89.95%	2.91%	7.25%	47.30%	45.44%	24.16%	59.14%	16.70%	
PEAK HR START TIME :	715 AM												TOTAL
PEAK HR VOL :	222	797	151	42	664	17	44	314	297	237	643	171	3599
PEAK HR FACTOR :		0.903			0.895			0.936			0.897		0.955

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA13_5312_003

Day: WEDNESDAY

City: City of Los Angeles

Date: 6/5/2013

PM

NS/EW Streets:	Central Ave			Central Ave			Imperial Hwy			Imperial Hwy			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	2	2	1	2	3	0	2	3	3	2	3	0	
3:00 PM	52	202	97	32	231	16	23	232	70	45	77	35	1112
3:15 PM	51	202	87	40	229	20	20	204	75	57	78	30	1093
3:30 PM	66	235	89	37	228	11	23	245	88	51	80	30	1183
3:45 PM	53	185	83	35	214	14	13	243	66	40	86	28	1060
4:00 PM	69	197	80	37	219	14	18	248	74	45	93	34	1128
4:15 PM	57	216	61	38	216	11	12	248	72	53	83	34	1101
4:30 PM	74	244	62	49	213	16	17	249	59	42	86	38	1149
4:45 PM	64	214	69	48	210	17	11	247	71	36	59	31	1077
5:00 PM	65	209	73	51	239	15	26	261	64	41	102	37	1183
5:15 PM	60	208	90	46	235	10	10	259	71	36	83	39	1147
5:30 PM	66	217	74	42	211	12	22	262	70	48	73	42	1139
5:45 PM	64	220	84	41	198	11	20	237	86	39	72	37	1109
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	741	2549	949	496	2643	167	215	2935	866	533	972	415	13481
APPROACH %'s :	17.48%	60.13%	22.39%	15.00%	79.95%	5.05%	5.35%	73.08%	21.56%	27.76%	50.63%	21.61%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	255	854	321	180	883	48	78	1019	291	164	330	155	4578
PEAK HR FACTOR :		0.971			0.911			0.980			0.901		0.967

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA13_5312_004

Day: WEDNESDAY

City: City of Los Angeles

Date: 6/5/2013

AM

NS/EW Streets:	Central Ave			Central Ave			I-105 WB Ramps			I-105 WB Ramps			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	2	2	0	0	2	1	1	1	1	1.3	0.3	1.3	
7:00 AM	71	177			184	141				35	0	74	682
7:15 AM	89	204			158	153				37	0	83	724
7:30 AM	74	242			172	133				29	1	85	736
7:45 AM	49	206			165	106				40	0	81	647
8:00 AM	53	199			190	125				47	0	71	685
8:15 AM	59	155			109	109				35	2	75	544
8:30 AM	69	179			177	119				55	0	80	679
8:45 AM	60	133			147	81				47	2	69	539
9:00 AM	61	154			154	95				41	1	84	590
9:15 AM	65	146			127	79				40	2	79	538
9:30 AM	64	126			132	104				46	0	79	551
9:45 AM	59	130			114	103				32	0	57	495
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	773	2051	0	0	1829	1348	0	0	0	484	8	917	7410
APPROACH %'s :	27.37%	72.63%	0.00%	0.00%	57.57%	42.43%				34.35%	0.57%	65.08%	
PEAK HR START TIME :	715 AM												TOTAL
PEAK HR VOL :	265	851	0	0	685	517	0	0	0	153	1	320	2792
PEAK HR FACTOR :		0.883			0.954			0.000			0.979		0.948

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA13_5312_004

Day: WEDNESDAY

City: City of Los Angeles

Date: 6/5/2013

PM

NS/EW Streets:	Central Ave			Central Ave			I-105 WB Ramps			I-105 WB Ramps			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	2	2	0	0	2	1	1	1	1	1.3	0.3	1.3	
3:00 PM	71	230			250	115				83	1	114	864
3:15 PM	96	234			237	139				68	0	113	887
3:30 PM	79	242			236	129				58	1	141	886
3:45 PM	62	196			203	119				71	1	132	784
4:00 PM	81	213			247	97				71	0	127	836
4:15 PM	70	194			211	131				72	0	149	827
4:30 PM	85	226			222	103				72	0	148	856
4:45 PM	62	220			210	116				56	0	127	791
5:00 PM	77	212			256	107				67	0	134	853
5:15 PM	57	228			233	100				89	1	137	845
5:30 PM	69	214			214	119				59	0	151	826
5:45 PM	73	242			237	94				60	0	122	828
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	882	2651	0	0	2756	1369	0	0	0	826	4	1595	10083
APPROACH %'s :	24.96%	75.04%	0.00%	0.00%	66.81%	33.19%				34.06%	0.16%	65.77%	
PEAK HR START TIME :	300 PM												TOTAL
PEAK HR VOL :	308	902	0	0	926	502	0	0	0	280	3	500	3421
PEAK HR FACTOR :		0.917			0.949			0.000			0.960		0.964

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA13_5312_005

Day: WEDNESDAY

City: City of Los Angeles

Date: 6/5/2013

AM

NS/EW Streets:	Central Ave			Central Ave			I-105 EB Ramps			I-105 EB Ramps			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	3	1	2	2	0	1.3	0.3	1.3	0	0	0	
7:00 AM		146	72	123	91		101		88				621
7:15 AM		161	77	107	93		133		96				667
7:30 AM		169	66	99	101		151		118				704
7:45 AM		130	65	84	123		120		84				606
8:00 AM		141	66	118	113		118		90				646
8:15 AM		123	62	73	78		86		84				506
8:30 AM		143	47	110	118		106		64				588
8:45 AM		109	43	84	114		83		68				501
9:00 AM		124	51	87	102		94		48				506
9:15 AM		125	45	76	96		84		44				470
9:30 AM		115	45	83	89		79		60				471
9:45 AM		97	49	67	85		88		61				447
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	1583	688	1111	1203	0	1243	0	905	0	0	0	6733
APPROACH %'s :	0.00%	69.70%	30.30%	48.01%	51.99%	0.00%	57.87%	0.00%	42.13%				
PEAK HR START TIME :	715 AM												TOTAL
PEAK HR VOL :	0	601	274	408	430	0	522	0	388	0	0	0	2623
PEAK HR FACTOR :		0.919			0.907			0.846			0.000		0.931

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: CA13_5312_005

Day: WEDNESDAY

City: City of Los Angeles

Date: 6/5/2013

PM

NS/EW Streets:	Central Ave			Central Ave			I-105 EB Ramps			I-105 EB Ramps			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	3	1	2	2	0	1.3	0.3	1.3	0	0	0	
3:00 PM		157	64	122	208		142	27	119				839
3:15 PM		196	61	109	199		137	31	121				854
3:30 PM		178	103	122	172		139	31	82				827
3:45 PM		142	70	109	161		121	39	96				738
4:00 PM		165	96	119	197		127	35	67				806
4:15 PM		152	62	126	160		113	48	70				731
4:30 PM		197	89	125	167		113	46	75				812
4:45 PM		177	81	101	165		97	50	68				739
5:00 PM		186	91	121	202		111	53	62				826
5:15 PM		156	87	125	192		122	54	71				807
5:30 PM		167	81	90	189		124	48	97				796
5:45 PM		183	68	112	184		129	59	85				820
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	2056	953	1381	2196	0	1475	521	1013	0	0	0	9595
APPROACH %'s :	0.00%	68.33%	31.67%	38.61%	61.39%	0.00%	49.02%	17.31%	33.67%				
PEAK HR START TIME :	300 PM												TOTAL
PEAK HR VOL :	0	673	298	462	740	0	539	128	418	0	0	0	3258
PEAK HR FACTOR :		0.864			0.911			0.939			0.000		0.954

CONTROL : Signalized

KOA CORPORATION
PLANNING & ENGINEERING

ATTACHMENT C

LEVEL OF SERVICE WORKSHEETS

LADWP 99th St Chlor Fac- EIR
Existing Conditions
AM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Base Volume Alternative)

Intersection #1 Central Ave. / Century Blvd.

Cycle (sec):	100	Critical Vol./Cap.(X):	0.888
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	165	Level Of Service:	D

Street Name:	Central						Century					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Prot+Permit			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 2	0 1	1	0 1	1 0	1	0 1	0 1	1	0 0	1 0
Volume Module:												
Base Vol:	160	821	31	51	779	120	137	336	164	49	393	52
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	160	821	31	51	779	120	137	336	164	49	393	52
User Adj:	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	170	871	33	54	827	127	145	357	174	52	417	55
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	170	871	33	54	827	127	145	357	174	52	417	55
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	170	871	33	54	827	127	145	357	174	52	417	55
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	1.73	0.27	1.00	1.00	1.00	1.00	0.88	0.12
Final Sat.:	1425	2850	1425	1425	2470	380	1425	1425	1425	1425	1258	167
Capacity Analysis Module:												
Vol/Sat:	0.12	0.31	0.02	0.04	0.33	0.33	0.10	0.25	0.12	0.04	0.33	0.33
Crit Volume:	170					477	145					472
Crit Moves:	****					****	****					****

LADWP 99th St Chlor Fac- EIR
Existing Conditions
AM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Base Volume Alternative)

Intersection #2 Central Ave. / 108th St. (W)

Cycle (sec):	100	Critical Vol./Cap.(X):	0.371
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	30	Level Of Service:	A

Street Name:	Central						108th					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 2	0 0	0	0 2	0 1	1	0 0	0 1	0	0 0	0 0
Volume Module:												
Base Vol:	48	762	0	0	788	48	50	0	87	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	48	762	0	0	788	48	50	0	87	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	48	762	0	0	788	48	50	0	87	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	48	762	0	0	788	48	50	0	87	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	48	762	0	0	788	48	50	0	87	0	0	0
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	0.00	0.00	2.00	1.00	1.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	1425	2850	0	0	2850	1425	1425	0	1425	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.03	0.27	0.00	0.00	0.28	0.03	0.04	0.00	0.06	0.00	0.00	0.00
Crit Volume:	48				394				87	0		
Crit Moves:	****				****				****			

LADWP 99th St Chlor Fac- EIR
Existing Conditions
AM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Base Volume Alternative)

Intersection #3 Central Ave. / 108th St. (E)

Cycle (sec): 100 Critical Vol./Cap.(X): 0.340 -0.10 ATCS
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx = 0.240
Optimal Cycle: 28 Level Of Service: A

Street Name:	Central						108th					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	2	0 1	1 0	2	0 0	0 0	0	0 0	0 0	1! 0	0
Volume Module:												
Base Vol:	0	766	31	37	835	0	0	0	0	25	0	39
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	766	31	37	835	0	0	0	0	25	0	39
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	766	31	37	835	0	0	0	0	25	0	39
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	766	31	37	835	0	0	0	0	25	0	39
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	766	31	37	835	0	0	0	0	25	0	39
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	2.00	1.00	1.00	2.00	0.00	0.00	0.00	0.00	0.39	0.00	0.61
Final Sat.:	0	2850	1425	1425	2850	0	0	0	0	557	0	868
Capacity Analysis Module:												
Vol/Sat:	0.00	0.27	0.02	0.03	0.29	0.00	0.00	0.00	0.00	0.04	0.00	0.04
Crit Volume:		383		37			0					64
Crit Moves:		****		****								****

LADWP 99th St Chlor Fac- EIR
Existing Conditions
AM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Base Volume Alternative)

Intersection #4 Central Ave. / Imperial Hwy. ATCS

Cycle (sec): 100 Critical Vol./Cap.(X): 0.617 -0.10=
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx 0.517
Optimal Cycle: 60 Level Of Service: B

Street Name:	Central						Imperial					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	2	0 1	2 0	2	1 0	2 0	2	1 0	2 0	2	1 0
Volume Module:												
Base Vol:	222	797	151	42	664	17	44	314	297	237	643	171
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	222	797	151	42	664	17	44	314	297	237	643	171
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	222	797	151	42	664	17	44	314	297	237	643	171
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	222	797	151	42	664	17	44	314	297	237	643	171
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.10	1.00	1.00	1.10	1.00	1.00	1.10	1.00	1.00	1.10	1.00	1.00
FinalVolume:	244	797	151	46	664	17	48	314	297	261	643	171
Saturation Flow Module:												
Sat/Lane:	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.00	1.00	2.00	2.93	0.07	2.00	2.00	1.00	2.00	2.37	0.63
Final Sat.:	2750	2750	1375	2750	4022	103	2750	2750	1375	2750	3258	867
Capacity Analysis Module:												
Vol/Sat:	0.09	0.29	0.11	0.02	0.17	0.17	0.02	0.11	0.22	0.09	0.20	0.20
Crit Volume:		399		23					297	130		
Crit Moves:		****		****					****	****		

LADWP 99th St Chlor Fac- EIR
Existing Conditions
AM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Base Volume Alternative)

Intersection #5 Central Ave. / I-105 Fwy WB On-Off Ramps

ATCS

Cycle (sec):	100	Critical Vol./Cap.(X):	0.589 −0.10
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx =0.489
Optimal Cycle:	45	Level Of Service:	A

Street Name:	Central						I-105 Fwy WB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Permitted			Permitted			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 2	0 0	0	0 2	0 1	0	0 0	0 0	1	0 1!	0 1
Volume Module:												
Base Vol:	265	851	0	0	685	517	0	0	0	153	1	320
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	265	851	0	0	685	517	0	0	0	153	1	320
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	265	851	0	0	685	517	0	0	0	153	1	320
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	265	851	0	0	685	517	0	0	0	153	1	320
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.10	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.10	1.00	1.10
FinalVolume:	292	851	0	0	685	517	0	0	0	168	1	352
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.00	0.00	0.00	2.00	1.00	0.00	0.00	0.00	1.00	0.01	1.99
Final Sat.:	2850	2850	0	0	2850	1425	0	0	0	1425	14	2836
Capacity Analysis Module:												
Vol/Sat:	0.10	0.30	0.00	0.00	0.24	0.36	0.00	0.00	0.00	0.12	0.07	0.12
Crit Volume:	146					517		0				177
Crit Moves:	****					****						****

LADWP 99th St Chlor Fac- EIR
Existing Conditions
AM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Base Volume Alternative)

Intersection #6 Central Ave. / I-105 Fwy EB On-Off Ramps

ATCS

Cycle (sec):	100	Critical Vol./Cap.(X):	0.584 −0.10
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx =0.484
Optimal Cycle:	45	Level Of Service:	A

Street Name:	Central						I-105 Fwy EB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0 3	0 1	2	0 2	0 0	1	0 1!	0 1	0	0 0	0 0
Volume Module:												
Base Vol:	0	601	274	408	430	0	522	0	388	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	601	274	408	430	0	522	0	388	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	601	274	408	430	0	522	0	388	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	601	274	408	430	0	522	0	388	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.10	1.00	1.00	1.10	1.00	1.10	1.00	1.00	1.00
FinalVolume:	0	601	274	449	430	0	574	0	427	0	0	0
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	3.00	1.00	2.00	2.00	0.00	1.72	0.00	1.28	0.00	0.00	0.00
Final Sat.:	0	4275	1425	2850	2850	0	2452	0	1823	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.14	0.19	0.16	0.15	0.00	0.23	0.00	0.23	0.00	0.00	0.00
Crit Volume:			274	224					334	0		
Crit Moves:			****	****					****			

LADWP 99th St Chlor Fac- EIR
Existing Conditions
PM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Base Volume Alternative)

Intersection #1 Central Ave. / Century Blvd.

ATCS

Cycle (sec): 100 Critical Vol./Cap.(X): 0.970 -0.10
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx = 0.870
Optimal Cycle: 180 Level Of Service: E

Street Name:	Central						Century					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Prot+Permit			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	1	1 0	1 1	0	1 0	1 0	1	1 0	0 1	0
Volume Module:												
Base Vol:	192	891	25	117	915	80	167	521	167	63	359	87
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	192	891	25	117	915	80	167	521	167	63	359	87
User Adj:	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	204	946	27	124	971	85	177	553	177	67	381	92
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	204	946	27	124	971	85	177	553	177	67	381	92
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	204	946	27	124	971	85	177	553	177	67	381	92
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	1.84	0.16	1.00	1.00	1.00	1.00	0.80	0.20
Final Sat.:	1425	2850	1425	1425	2621	229	1425	1425	1425	1425	1147	278
Capacity Analysis Module:												
Vol/Sat:	0.14	0.33	0.02	0.09	0.37	0.37	0.12	0.39	0.12	0.05	0.33	0.33
Crit Volume:	204				528		177					473
Crit Moves:	****				****		****					****

LADWP 99th St Chlor Fac- EIR
Existing Conditions
PM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Base Volume Alternative)

Intersection #2 Central Ave. / 108th St. (W)

Cycle (sec): 100 Critical Vol./Cap.(X): 0.564 -0.10
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx = 0.464
Optimal Cycle: 43 Level Of Service: A

Street Name:	Central						108th					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	0	0 0	2 0	1	1 0	0 0	1	0 0	0 0	0
Volume Module:												
Base Vol:	109	1117	0	0	1037	82	142	0	176	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	109	1117	0	0	1037	82	142	0	176	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	109	1117	0	0	1037	82	142	0	176	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	109	1117	0	0	1037	82	142	0	176	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	109	1117	0	0	1037	82	142	0	176	0	0	0
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	0.00	0.00	2.00	1.00	1.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	1425	2850	0	0	2850	1425	1425	0	1425	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.08	0.39	0.00	0.00	0.36	0.06	0.10	0.00	0.12	0.00	0.00	0.00
Crit Volume:	109				518				176	0		
Crit Moves:	****				****				****			

LADWP 99th St Chlor Fac- EIR
Existing Conditions
PM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Base Volume Alternative)

Intersection #3 Central Ave. / 108th St. (E)

Cycle (sec):	100	Critical Vol./Cap.(X):	0.537 −0.10
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx =0.437
Optimal Cycle:	40	Level Of Service:	A

Street Name:	Central						108th					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	2	0 1	1	2	0 0	0	0	0 0 0	0	0	1! 0 0
Volume Module:												
Base Vol:	0	1154	37	75	1127	0	0	0	0	46	0	67
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1154	37	75	1127	0	0	0	0	46	0	67
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	1154	37	75	1127	0	0	0	0	46	0	67
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1154	37	75	1127	0	0	0	0	46	0	67
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1154	37	75	1127	0	0	0	0	46	0	67
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	2.00	1.00	1.00	2.00	0.00	0.00	0.00	0.00	0.41	0.00	0.59
Final Sat.:	0	2850	1425	1425	2850	0	0	0	0	580	0	845
Capacity Analysis Module:												
Vol/Sat:	0.00	0.40	0.03	0.05	0.40	0.00	0.00	0.00	0.00	0.08	0.00	0.08
Crit Volume:		577		75			0					113
Crit Moves:		****		****								****

LADWP 99th St Chlor Fac- EIR
Existing Conditions
PM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Base Volume Alternative)

Intersection #4 Central Ave. / Imperial Hwy.

Cycle (sec):	100	Critical Vol./Cap.(X):	0.766 −0.10
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx =0.666
Optimal Cycle:	97	Level Of Service:	C

Street Name:	Central						Imperial					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0	2 0 1	2	0	2 1 0	2	0	2 1 0	2	0	2 1 0
Volume Module:												
Base Vol:	255	854	321	180	883	48	78	1019	291	164	330	155
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	255	854	321	180	883	48	78	1019	291	164	330	155
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	255	854	321	180	883	48	78	1019	291	164	330	155
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	255	854	321	180	883	48	78	1019	291	164	330	155
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.10	1.00	1.00	1.10	1.00	1.00	1.10	1.00	1.00	1.10	1.00	1.00
FinalVolume:	281	854	321	198	883	48	86	1019	291	180	330	155
Saturation Flow Module:												
Sat/Lane:	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.00	1.00	2.00	2.85	0.15	2.00	2.33	0.67	2.00	2.04	0.96
Final Sat.:	2750	2750	1375	2750	3912	213	2750	3209	916	2750	2807	1318
Capacity Analysis Module:												
Vol/Sat:	0.10	0.31	0.23	0.07	0.23	0.23	0.03	0.32	0.32	0.07	0.12	0.12
Crit Volume:		427		99					437	90		
Crit Moves:		****		****					****	****		

LADWP 99th St Chlor Fac- EIR
Existing Conditions
PM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Base Volume Alternative)

Intersection #5 Central Ave. / I-105 Fwy WB On-Off Ramps

Cycle (sec): 100 Critical Vol./Cap.(X): 0.673 − 0.10 =
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx 0.573
Optimal Cycle: 57 Level Of Service: B

Street Name:	Central						I-105 Fwy WB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Permitted			Permitted			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 2.0	0 0	0	0 2.0	1	0	0 0.0	0 0	1	0 1!0	1
Volume Module:												
Base Vol:	308	902	0	0	926	502	0	0	0	280	3	500
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	308	902	0	0	926	502	0	0	0	280	3	500
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	308	902	0	0	926	502	0	0	0	280	3	500
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	308	902	0	0	926	502	0	0	0	280	3	500
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.10	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.10	1.00	1.10
FinalVolume:	339	902	0	0	926	502	0	0	0	308	3	550
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.00	0.00	0.00	2.00	1.00	0.00	0.00	0.00	1.07	0.01	1.92
Final Sat.:	2850	2850	0	0	2850	1425	0	0	0	1529	15	2731
Capacity Analysis Module:												
Vol/Sat:	0.12	0.32	0.00	0.00	0.32	0.35	0.00	0.00	0.00	0.20	0.20	0.20
Crit Volume:	169					502		0			287	
Crit Moves:	****					****					****	

LADWP 99th St Chlor Fac- EIR
Existing Conditions
PM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Base Volume Alternative)

Intersection #6 Central Ave. / I-105 Fwy EB On-Off Ramps

Cycle (sec): 100 Critical Vol./Cap.(X): 0.664 − 0.10
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx =0.564
Optimal Cycle: 55 Level Of Service: B

Street Name:	Central						I-105 Fwy EB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0 3.0	0 1	2	0 2.0	0 0	1	0 1!0	1	0	0 0.0	0 0
Volume Module:												
Base Vol:	0	673	298	462	740	0	539	128	418	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	673	298	462	740	0	539	128	418	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	673	298	462	740	0	539	128	418	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	673	298	462	740	0	539	128	418	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.10	1.00	1.00	1.10	1.00	1.10	1.00	1.00	1.00
FinalVolume:	0	673	298	508	740	0	593	128	460	0	0	0
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	3.00	1.00	2.00	2.00	0.00	1.51	0.32	1.17	0.00	0.00	0.00
Final Sat.:	0	4275	1425	2850	2850	0	2147	463	1665	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.16	0.21	0.18	0.26	0.00	0.28	0.28	0.28	0.00	0.00	0.00
Crit Volume:			298	254			394					0
Crit Moves:			****	****			****					

LADWP 99th St Chlor Fac- EIR
Future No Project Conditions
AM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #1 Central Ave. / Century Blvd.

Cycle (sec):	100	Critical Vol./Cap.(X):	0.942 - 0.10
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx = 0.842
Optimal Cycle:	180	Level Of Service:	E

Street Name:	Central						Century					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Prot+Permit			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 2	0 1	1	0 1	1 0	1	0 1	0 1	1	0 0	1 0
Volume Module:												
Base Vol:	160	821	31	51	779	120	137	336	164	49	393	52
Growth Adj:	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Initial Bse:	170	871	33	54	827	127	145	357	174	52	417	55
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	170	871	33	54	827	127	145	357	174	52	417	55
User Adj:	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	180	925	35	57	878	135	154	378	185	55	443	59
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	180	925	35	57	878	135	154	378	185	55	443	59
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	180	925	35	57	878	135	154	378	185	55	443	59
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	1.73	0.27	1.00	1.00	1.00	1.00	0.88	0.12
Final Sat.:	1425	2850	1425	1425	2470	380	1425	1425	1425	1425	1258	167
Capacity Analysis Module:												
Vol/Sat:	0.13	0.32	0.02	0.04	0.36	0.36	0.11	0.27	0.13	0.04	0.35	0.35
Crit Volume:	180					506	154					501
Crit Moves:	****					****	****					****

LADWP 99th St Chlor Fac- EIR
Future No Project Conditions
AM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #2 Central Ave. / 108th St. (W)

Cycle (sec):	100	Critical Vol./Cap.(X):	0.394 - 0.10
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx = 0.294
Optimal Cycle:	31	Level Of Service:	A

Street Name:	Central						108th					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 2	0 0	0	0 2	0 1	1	0 0	0 1	0	0 0	0 0
Volume Module:												
Base Vol:	48	762	0	0	788	48	50	0	87	0	0	0
Growth Adj:	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Initial Bse:	51	809	0	0	836	51	53	0	92	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	51	809	0	0	836	51	53	0	92	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	51	809	0	0	836	51	53	0	92	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	51	809	0	0	836	51	53	0	92	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	51	809	0	0	836	51	53	0	92	0	0	0
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	0.00	0.00	2.00	1.00	1.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	1425	2850	0	0	2850	1425	1425	0	1425	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.04	0.28	0.00	0.00	0.29	0.04	0.04	0.00	0.06	0.00	0.00	0.00
Crit Volume:	51				418				92	0		
Crit Moves:	****				****				****			

LADWP 99th St Chlor Fac- EIR
Future No Project Conditions
AM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #3 Central Ave. / 108th St. (E)

Cycle (sec):	100	Critical Vol./Cap.(X):	0.360 −0.10
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx = 0.260
Optimal Cycle:	29	Level Of Service:	A

Street Name:	Central						108th					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0 2	0 1	1	0 2	0 0	0	0 0	0 0	0	0 1!	0 0
Volume Module:												
Base Vol:	0	766	31	37	835	0	0	0	0	25	0	39
Growth Adj:	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Initial Bse:	0	813	33	39	886	0	0	0	0	27	0	41
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	813	33	39	886	0	0	0	0	27	0	41
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	813	33	39	886	0	0	0	0	27	0	41
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	813	33	39	886	0	0	0	0	27	0	41
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	813	33	39	886	0	0	0	0	27	0	41
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	2.00	1.00	1.00	2.00	0.00	0.00	0.00	0.00	0.39	xxxx	0.61
Final Sat.:	0	2850	1425	1425	2850	0	0	0	0	557	0	868
Capacity Analysis Module:												
Vol/Sat:	0.00	0.29	0.02	0.03	0.31	0.00	0.00	0.00	0.00	0.05	0.00	0.05
Crit Volume:		406		39			0					68
Crit Moves:		****		****								****

LADWP 99th St Chlor Fac- EIR
Future No Project Conditions
AM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #4 Central Ave. / Imperial Hwy.

Cycle (sec):	100	Critical Vol./Cap.(X):	0.655 −0.10
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx = 0.555
Optimal Cycle:	66	Level Of Service:	B

Street Name:	Central						Imperial					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 2	0 1	2	0 2	1 0	2	0 2	1 0	2	0 2	1 0
Volume Module:												
Base Vol:	222	797	151	42	664	17	44	314	297	237	643	171
Growth Adj:	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Initial Bse:	236	846	160	45	705	18	47	333	315	252	682	181
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	236	846	160	45	705	18	47	333	315	252	682	181
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	236	846	160	45	705	18	47	333	315	252	682	181
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	236	846	160	45	705	18	47	333	315	252	682	181
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.10	1.00	1.00	1.10	1.00	1.00	1.10	1.00	1.00	1.10	1.00	1.00
FinalVolume:	259	846	160	49	705	18	51	333	315	277	682	181
Saturation Flow Module:												
Sat/Lane:	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.00	1.00	2.00	2.93	0.07	2.00	2.00	1.00	2.00	2.37	0.63
Final Sat.:	2750	2750	1375	2750	4022	103	2750	2750	1375	2750	3258	867
Capacity Analysis Module:												
Vol/Sat:	0.09	0.31	0.12	0.02	0.18	0.18	0.02	0.12	0.23	0.10	0.21	0.21
Crit Volume:		423		25					315	138		
Crit Moves:		****		****					****	****		

LADWP 99th St Chlor Fac- EIR
Future No Project Conditions
AM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #5 Central Ave. / I-105 Fwy WB On-Off Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.625 -0.10
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx =0.525
Optimal Cycle:	50	Level Of Service:	B

Street Name:	Central						I-105 Fwy WB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Permitted			Permitted			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 2	0 0	0	0 2	0 1	0	0 0	0 0	1	0 1!	0 1
Volume Module:												
Base Vol:	265	851	0	0	685	517	0	0	0	153	1	320
Growth Adj:	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Initial Bse:	281	903	0	0	727	549	0	0	0	162	1	340
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	281	903	0	0	727	549	0	0	0	162	1	340
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	281	903	0	0	727	549	0	0	0	162	1	340
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	281	903	0	0	727	549	0	0	0	162	1	340
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.10	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.10	1.00	1.10
FinalVolume:	309	903	0	0	727	549	0	0	0	179	1	374
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.00	0.00	0.00	2.00	1.00	0.00	0.00	0.00	1.00	0.01	1.99
Final Sat.:	2850	2850	0	0	2850	1425	0	0	0	1425	14	2836
Capacity Analysis Module:												
Vol/Sat:	0.11	0.32	0.00	0.00	0.26	0.39	0.00	0.00	0.00	0.13	0.07	0.13
Crit Volume:	155					549		0				188
Crit Moves:	****					****						****

LADWP 99th St Chlor Fac- EIR
Future No Project Conditions
AM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #6 Central Ave. / I-105 Fwy EB On-Off Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.620 -0.10
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx =0.520
Optimal Cycle:	49	Level Of Service:	B

Street Name:	Central						I-105 Fwy EB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0 3	0 1	2	0 2	0 0	1	0 1!	0 1	0	0 0	0 0
Volume Module:												
Base Vol:	0	601	274	408	430	0	522	0	388	0	0	0
Growth Adj:	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Initial Bse:	0	638	291	433	456	0	554	0	412	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	638	291	433	456	0	554	0	412	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	638	291	433	456	0	554	0	412	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	638	291	433	456	0	554	0	412	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.10	1.00	1.00	1.10	1.00	1.10	1.00	1.00	1.00
FinalVolume:	0	638	291	476	456	0	609	0	453	0	0	0
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	3.00	1.00	2.00	2.00	0.00	1.72	xxxx	1.28	0.00	0.00	0.00
Final Sat.:	0	4275	1425	2850	2850	0	2452	0	1823	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.15	0.20	0.17	0.16	0.00	0.25	0.00	0.25	0.00	0.00	0.00
Crit Volume:			291	238					354	0		
Crit Moves:			****	****					****			

LADWP 99th St Chlor Fac- EIR
Future No Project Conditions
PM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #1 Central Ave. / Century Blvd.

Cycle (sec): 100 Critical Vol./Cap.(X): 1.030 -0.10
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx = 0.930
Optimal Cycle: 180 Level Of Service: F

Street Name:	Central						Century					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Prot+Permit			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	1	1 0	1 1	0	1 0	1 0	1	1 0	0 1	0
Volume Module:												
Base Vol:	192	891	25	117	915	80	167	521	167	63	359	87
Growth Adj:	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Initial Bse:	204	946	27	124	971	85	177	553	177	67	381	92
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	204	946	27	124	971	85	177	553	177	67	381	92
User Adj:	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	216	1004	28	132	1031	90	188	587	188	71	404	98
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	216	1004	28	132	1031	90	188	587	188	71	404	98
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	216	1004	28	132	1031	90	188	587	188	71	404	98
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	1.84	0.16	1.00	1.00	1.00	1.00	0.80	0.20
Final Sat.:	1425	2850	1425	1425	2621	229	1425	1425	1425	1425	1147	278
Capacity Analysis Module:												
Vol/Sat:	0.15	0.35	0.02	0.09	0.39	0.39	0.13	0.41	0.13	0.05	0.35	0.35
Crit Volume:	216				560		188					502
Crit Moves:	****				****		****					****

LADWP 99th St Chlor Fac- EIR
Future No Project Conditions
PM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #2 Central Ave. / 108th St. (W)

Cycle (sec): 100 Critical Vol./Cap.(X): 0.598 -0.10
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx = 0.498
Optimal Cycle: 46 Level Of Service: A

Street Name:	Central						108th					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	0	0 0	2 0	1	1 0	0 0	1	0 0	0 0	0
Volume Module:												
Base Vol:	109	1117	0	0	1037	82	142	0	176	0	0	0
Growth Adj:	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Initial Bse:	116	1185	0	0	1100	87	151	0	187	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	116	1185	0	0	1100	87	151	0	187	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	116	1185	0	0	1100	87	151	0	187	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	116	1185	0	0	1100	87	151	0	187	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	116	1185	0	0	1100	87	151	0	187	0	0	0
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	0.00	0.00	2.00	1.00	1.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	1425	2850	0	0	2850	1425	1425	0	1425	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.08	0.42	0.00	0.00	0.39	0.06	0.11	0.00	0.13	0.00	0.00	0.00
Crit Volume:	116				550				187	0		
Crit Moves:	****				****				****			

LADWP 99th St Chlor Fac- EIR
Future No Project Conditions
PM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #3 Central Ave. / 108th St. (E)

Cycle (sec): 100 Critical Vol./Cap.(X): 0.570 -0.10
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx =0.470
Optimal Cycle: 43 Level Of Service: A

Street Name:	Central						108th					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0 2.00	0 1.00	1.00	0 2.00	0 0.00	0.00	0 0.00	0 0.00	0.00	0 1.00	0 0.00
Volume Module:												
Base Vol:	0	1154	37	75	1127	0	0	0	0	46	0	67
Growth Adj:	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Initial Bse:	0	1225	39	80	1196	0	0	0	0	49	0	71
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	1225	39	80	1196	0	0	0	0	49	0	71
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	1225	39	80	1196	0	0	0	0	49	0	71
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1225	39	80	1196	0	0	0	0	49	0	71
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1225	39	80	1196	0	0	0	0	49	0	71
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	2.00	1.00	1.00	2.00	0.00	0.00	0.00	0.00	0.41	0.00	0.59
Final Sat.:	0	2850	1425	1425	2850	0	0	0	0	580	0	845
Capacity Analysis Module:												
Vol/Sat:	0.00	0.43	0.03	0.06	0.42	0.00	0.00	0.00	0.00	0.08	0.00	0.08
Crit Volume:		612		80			0					120
Crit Moves:		****		****								****

LADWP 99th St Chlor Fac- EIR
Future No Project Conditions
PM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #4 Central Ave. / Imperial Hwy.

Cycle (sec): 100 Critical Vol./Cap.(X): 0.813 - 0.10
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx =0.713
Optimal Cycle: 122 Level Of Service: D

Street Name:	Central						Imperial					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 2.00	0 1.00	2.00	0 2.00	1 0.00	2.00	0 2.00	1 0.00	2.00	0 2.00	1 0.00
Volume Module:												
Base Vol:	255	854	321	180	883	48	78	1019	291	164	330	155
Growth Adj:	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Initial Bse:	271	906	341	191	937	51	83	1081	309	174	350	164
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	271	906	341	191	937	51	83	1081	309	174	350	164
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	271	906	341	191	937	51	83	1081	309	174	350	164
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	271	906	341	191	937	51	83	1081	309	174	350	164
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.10	1.00	1.00	1.10	1.00	1.00	1.10	1.00	1.00	1.10	1.00	1.00
FinalVolume:	298	906	341	210	937	51	91	1081	309	191	350	164
Saturation Flow Module:												
Sat/Lane:	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.00	1.00	2.00	2.85	0.15	2.00	2.33	0.67	2.00	2.04	0.96
Final Sat.:	2750	2750	1375	2750	3912	213	2750	3209	916	2750	2807	1318
Capacity Analysis Module:												
Vol/Sat:	0.11	0.33	0.25	0.08	0.24	0.24	0.03	0.34	0.34	0.07	0.12	0.12
Crit Volume:		453		105					463	96		
Crit Moves:		****		****					****	****		

LADWP 99th St Chlor Fac- EIR
Future No Project Conditions
PM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #5 Central Ave. / I-105 Fwy WB On-Off Ramps

Cycle (sec): 100 Critical Vol./Cap.(X): 0.714 -0.10
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx =0.614
Optimal Cycle: 65 Level Of Service: C

Street Name:	Central						I-105 Fwy WB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Permitted			Permitted			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 2	0 0	0	0 2	0 1	0	0 0	0 0	1	0 1!	0 1
Volume Module:												
Base Vol:	308	902	0	0	926	502	0	0	0	280	3	500
Growth Adj:	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Initial Bse:	327	957	0	0	983	533	0	0	0	297	3	531
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	327	957	0	0	983	533	0	0	0	297	3	531
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	327	957	0	0	983	533	0	0	0	297	3	531
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	327	957	0	0	983	533	0	0	0	297	3	531
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.10	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.10	1.00	1.10
FinalVolume:	360	957	0	0	983	533	0	0	0	327	3	584
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.00	0.00	0.00	2.00	1.00	0.00	0.00	0.00	1.07	0.01	1.92
Final Sat.:	2850	2850	0	0	2850	1425	0	0	0	1529	15	2731
Capacity Analysis Module:												
Vol/Sat:	0.13	0.34	0.00	0.00	0.34	0.37	0.00	0.00	0.00	0.21	0.21	0.21
Crit Volume:	180					533		0			305	
Crit Moves:	****					****					****	

LADWP 99th St Chlor Fac- EIR
Future No Project Conditions
PM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #6 Central Ave. / I-105 Fwy EB On-Off Ramps

Cycle (sec): 100 Critical Vol./Cap.(X): 0.704 -0.10
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx =0.604
Optimal Cycle: 63 Level Of Service: C

Street Name:	Central						I-105 Fwy EB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0 3	0 1	2	0 2	0 0	1	0 1!	0 1	0	0 0	0 0
Volume Module:												
Base Vol:	0	673	298	462	740	0	539	128	418	0	0	0
Growth Adj:	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Initial Bse:	0	714	316	490	785	0	572	136	444	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	714	316	490	785	0	572	136	444	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	714	316	490	785	0	572	136	444	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	714	316	490	785	0	572	136	444	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.10	1.00	1.00	1.10	1.00	1.10	1.00	1.00	1.00
FinalVolume:	0	714	316	539	785	0	629	136	488	0	0	0
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	3.00	1.00	2.00	2.00	0.00	1.51	0.32	1.17	0.00	0.00	0.00
Final Sat.:	0	4275	1425	2850	2850	0	2147	463	1665	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.17	0.22	0.19	0.28	0.00	0.29	0.29	0.29	0.00	0.00	0.00
Crit Volume:			316	270			418					0
Crit Moves:			****	****			****					

LADWP 99th St Chlor Fac- EIR
Future With Project Conditions
AM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #1 Central Ave. / Century Blvd.

Cycle (sec): 100 Critical Vol./Cap.(X): 0.956 -0.10
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx =0.856
Optimal Cycle: 180 Level Of Service: E

Street Name:	Central						Century					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Prot+Permit			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 2	0 1	1	0 1	1 0	1	0 1	0 1	1	0 0	1 0
Volume Module:												
Base Vol:	160	821	31	51	779	120	137	336	164	49	393	52
Growth Adj:	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Initial Bse:	170	871	33	54	827	127	145	357	174	52	417	55
Added Vol:	17	0	0	0	0	1	1	0	10	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	187	871	33	54	827	128	146	357	184	52	417	55
User Adj:	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	198	925	35	57	878	136	155	378	195	55	443	59
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	198	925	35	57	878	136	155	378	195	55	443	59
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	198	925	35	57	878	136	155	378	195	55	443	59
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	1.73	0.27	1.00	1.00	1.00	1.00	0.88	0.12
Final Sat.:	1425	2850	1425	1425	2467	383	1425	1425	1425	1425	1258	167
Capacity Analysis Module:												
Vol/Sat:	0.14	0.32	0.02	0.04	0.36	0.36	0.11	0.27	0.14	0.04	0.35	0.35
Crit Volume:	198				507		155					501
Crit Moves:	****				****		****					****

LADWP 99th St Chlor Fac- EIR
Future With Project Conditions
AM Peak Hour

Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #2 Central Ave. / 108th St. (W)

Cycle (sec): 100 Critical Vol./Cap.(X): 0.397 -0.10
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx =0.297
Optimal Cycle: 31 Level Of Service: A

Street Name:	Central						108th					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 2	0 0	0	0 2	0 1	1	0 0	0 1	0	0 0	0 0
Volume Module:												
Base Vol:	48	762	0	0	788	48	50	0	87	0	0	0
Growth Adj:	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Initial Bse:	51	809	0	0	836	51	53	0	92	0	0	0
Added Vol:	0	17	0	0	10	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	51	826	0	0	846	51	53	0	92	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	51	826	0	0	846	51	53	0	92	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	51	826	0	0	846	51	53	0	92	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	51	826	0	0	846	51	53	0	92	0	0	0
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	0.00	0.00	2.00	1.00	1.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	1425	2850	0	0	2850	1425	1425	0	1425	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.04	0.29	0.00	0.00	0.30	0.04	0.04	0.00	0.06	0.00	0.00	0.00
Crit Volume:	51				423				92	0		
Crit Moves:	****				****				****			

LADWP 99th St Chlor Fac- EIR
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Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #3 Central Ave. / 108th St. (E)

Cycle (sec):	100	Critical Vol./Cap.(X):	0.366
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	29	Level Of Service:	A

-0.10 = 0.266

Street Name:	Central									108th		
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0 2	0 1	1	0 2	0 0	0	0 0	0 0	0	0 1!	0 0
Volume Module:												
Base Vol:	0	766	31	37	835	0	0	0	0	25	0	39
Growth Adj:	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Initial Bse:	0	813	33	39	886	0	0	0	0	27	0	41
Added Vol:	0	16	0	0	10	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	829	33	39	896	0	0	0	0	27	0	41
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	829	33	39	896	0	0	0	0	27	0	41
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	829	33	39	896	0	0	0	0	27	0	41
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	829	33	39	896	0	0	0	0	27	0	41
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	2.00	1.00	1.00	2.00	0.00	0.00	0.00	0.00	0.39	xxxx	0.61
Final Sat.:	0	2850	1425	1425	2850	0	0	0	0	557	0	868
Capacity Analysis Module:												
Vol/Sat:	0.00	0.29	0.02	0.03	0.31	0.00	0.00	0.00	0.00	0.05	0.00	0.05
Crit Volume:		414		39			0					68
Crit Moves:		****		****								****

LADWP 99th St Chlor Fac- EIR
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Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #4 Central Ave. / Imperial Hwy.

Cycle (sec):	100	Critical Vol./Cap.(X):	0.661
Loss Time (sec):	0	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	67	Level Of Service:	B

0.10 = 0.561

Street Name:	Central									Imperial		
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 2	0 1	2	0 2	1 0	2	0 2	1 0	2	0 2	1 0
Volume Module:												
Base Vol:	222	797	151	42	664	17	44	314	297	237	643	171
Growth Adj:	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Initial Bse:	236	846	160	45	705	18	47	333	315	252	682	181
Added Vol:	0	16	0	0	10	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	236	862	160	45	715	18	47	333	315	252	682	181
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	236	862	160	45	715	18	47	333	315	252	682	181
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	236	862	160	45	715	18	47	333	315	252	682	181
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.10	1.00	1.00	1.10	1.00	1.00	1.10	1.00	1.00	1.10	1.00	1.00
FinalVolume:	259	862	160	49	715	18	51	333	315	277	682	181
Saturation Flow Module:												
Sat/Lane:	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.00	1.00	2.00	2.93	0.07	2.00	2.00	1.00	2.00	2.37	0.63
Final Sat.:	2750	2750	1375	2750	4023	102	2750	2750	1375	2750	3258	867
Capacity Analysis Module:												
Vol/Sat:	0.09	0.31	0.12	0.02	0.18	0.18	0.02	0.12	0.23	0.10	0.21	0.21
Crit Volume:		431		25					315	138		
Crit Moves:		****		****					****	****		

LADWP 99th St Chlor Fac- EIR
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Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #5 Central Ave. / I-105 Fwy WB On-Off Ramps

Cycle (sec): 100 Critical Vol./Cap.(X): 0.631 − 0.10
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx = 0.531
Optimal Cycle: 50 Level Of Service: B

Street Name:	Central						I-105 Fwy WB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Permitted			Permitted			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 2	0 0	0	0 2	0 1	0	0 0	0 0	1	0 1!	0 1
Volume Module:												
Base Vol:	265	851	0	0	685	517	0	0	0	153	1	320
Growth Adj:	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Initial Bse:	281	903	0	0	727	549	0	0	0	162	1	340
Added Vol:	0	9	0	0	5	4	0	0	0	0	0	7
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	281	912	0	0	732	553	0	0	0	162	1	347
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	281	912	0	0	732	553	0	0	0	162	1	347
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	281	912	0	0	732	553	0	0	0	162	1	347
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.10	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.10	1.00	1.10
FinalVolume:	309	912	0	0	732	553	0	0	0	179	1	381
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.00	0.00	0.00	2.00	1.00	0.00	0.00	0.00	1.00	0.01	1.99
Final Sat.:	2850	2850	0	0	2850	1425	0	0	0	1425	14	2836
Capacity Analysis Module:												
Vol/Sat:	0.11	0.32	0.00	0.00	0.26	0.39	0.00	0.00	0.00	0.13	0.07	0.13
Crit Volume:	155					553		0				192
Crit Moves:	****					****						****

LADWP 99th St Chlor Fac- EIR
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Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #6 Central Ave. / I-105 Fwy EB On-Off Ramps

Cycle (sec): 100 Critical Vol./Cap.(X): 0.623 − 0.10
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx = 0.523
Optimal Cycle: 49 Level Of Service: B

Street Name:	Central						I-105 Fwy EB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0 3	0 1	2	0 2	0 0	1	0 1!	0 1	0	0 0	0 0
Volume Module:												
Base Vol:	0	601	274	408	430	0	522	0	388	0	0	0
Growth Adj:	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Initial Bse:	0	638	291	433	456	0	554	0	412	0	0	0
Added Vol:	0	2	0	4	1	0	7	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	640	291	437	457	0	561	0	412	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	640	291	437	457	0	561	0	412	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	640	291	437	457	0	561	0	412	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.10	1.00	1.00	1.10	1.00	1.10	1.00	1.00	1.00
FinalVolume:	0	640	291	481	457	0	617	0	453	0	0	0
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	3.00	1.00	2.00	2.00	0.00	1.73	0.00	1.27	0.00	0.00	0.00
Final Sat.:	0	4275	1425	2850	2850	0	2465	0	1810	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.15	0.20	0.17	0.16	0.00	0.25	0.00	0.25	0.00	0.00	0.00
Crit Volume:			291	240					357	0		
Crit Moves:			****	****					****			

LADWP 99th St Chlor Fac- EIR
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Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #1 Central Ave. / Century Blvd.

Cycle (sec): 100 Critical Vol./Cap.(X): 1.038 - 0.10
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx = 0.938
Optimal Cycle: 180 Level Of Service: F

Street Name:	Central						Century					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Prot+Permit			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2	0 1	1 0	1	1 0	1 0	1	0 1	1 0	0	1 0
Volume Module:												
Base Vol:	192	891	25	117	915	80	167	521	167	63	359	87
Growth Adj:	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Initial Bse:	204	946	27	124	971	85	177	553	177	67	381	92
Added Vol:	10	0	0	0	0	1	1	0	17	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	214	946	27	124	971	86	178	553	194	67	381	92
User Adj:	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	227	1004	28	132	1031	91	189	587	206	71	404	98
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	227	1004	28	132	1031	91	189	587	206	71	404	98
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	227	1004	28	132	1031	91	189	587	206	71	404	98
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	1.84	0.16	1.00	1.00	1.00	1.00	0.80	0.20
Final Sat.:	1425	2850	1425	1425	2618	232	1425	1425	1425	1425	1147	278
Capacity Analysis Module:												
Vol/Sat:	0.16	0.35	0.02	0.09	0.39	0.39	0.13	0.41	0.14	0.05	0.35	0.35
Crit Volume:	227				561		189					502
Crit Moves:	****				****		****					****

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Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #2 Central Ave. / 108th St. (W)

Cycle (sec): 100 Critical Vol./Cap.(X): 0.604 - 0.10
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx = 0.504
Optimal Cycle: 47 Level Of Service: B

Street Name:	Central						108th					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2	0 0	0 0	2	0 1	1 0	0	0 1	0 0	0	0 0
Volume Module:												
Base Vol:	109	1117	0	0	1037	82	142	0	176	0	0	0
Growth Adj:	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Initial Bse:	116	1185	0	0	1100	87	151	0	187	0	0	0
Added Vol:	0	10	0	0	17	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	116	1195	0	0	1117	87	151	0	187	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	116	1195	0	0	1117	87	151	0	187	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	116	1195	0	0	1117	87	151	0	187	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	116	1195	0	0	1117	87	151	0	187	0	0	0
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	0.00	0.00	2.00	1.00	1.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	1425	2850	0	0	2850	1425	1425	0	1425	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.08	0.42	0.00	0.00	0.39	0.06	0.11	0.00	0.13	0.00	0.00	0.00
Crit Volume:	116				559				187	0		
Crit Moves:	****				****				****			

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Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #3 Central Ave. / 108th St. (E)

Cycle (sec): 100 Critical Vol./Cap.(X): 0.573 −0.10
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx = 0.473
Optimal Cycle: 44 Level Of Service: A

Street Name:	Central						108th					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	2	0	1	1	2	0	0	0	0	0	1! 0
Volume Module:												
Base Vol:	0	1154	37	75	1127	0	0	0	0	46	0	67
Growth Adj:	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Initial Bse:	0	1225	39	80	1196	0	0	0	0	49	0	71
Added Vol:	0	10	0	0	16	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	1235	39	80	1212	0	0	0	0	49	0	71
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	1235	39	80	1212	0	0	0	0	49	0	71
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1235	39	80	1212	0	0	0	0	49	0	71
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1235	39	80	1212	0	0	0	0	49	0	71
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	2.00	1.00	1.00	2.00	0.00	0.00	0.00	0.00	0.41	0.00	0.59
Final Sat.:	0	2850	1425	1425	2850	0	0	0	0	580	0	845
Capacity Analysis Module:												
Vol/Sat:	0.00	0.43	0.03	0.06	0.43	0.00	0.00	0.00	0.00	0.08	0.00	0.08
Crit Volume:		617		80			0					120
Crit Moves:		****		****								****

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Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #4 Central Ave. / Imperial Hwy.

Cycle (sec): 100 Critical Vol./Cap.(X): 0.816 −0.10
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx = 0.716
Optimal Cycle: 124 Level Of Service: D

Street Name:	Central						Imperial					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0	2	0	1	2	0	2	1	0	2	0 2 1 0
Volume Module:												
Base Vol:	255	854	321	180	883	48	78	1019	291	164	330	155
Growth Adj:	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Initial Bse:	271	906	341	191	937	51	83	1081	309	174	350	164
Added Vol:	0	10	0	0	16	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	271	916	341	191	953	51	83	1081	309	174	350	164
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	271	916	341	191	953	51	83	1081	309	174	350	164
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	271	916	341	191	953	51	83	1081	309	174	350	164
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.10	1.00	1.00	1.10	1.00	1.00	1.10	1.00	1.00	1.10	1.00	1.00
FinalVolume:	298	916	341	210	953	51	91	1081	309	191	350	164
Saturation Flow Module:												
Sat/Lane:	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375	1375
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.00	1.00	2.00	2.85	0.15	2.00	2.33	0.67	2.00	2.04	0.96
Final Sat.:	2750	2750	1375	2750	3916	209	2750	3209	916	2750	2807	1318
Capacity Analysis Module:												
Vol/Sat:	0.11	0.33	0.25	0.08	0.24	0.24	0.03	0.34	0.34	0.07	0.12	0.12
Crit Volume:		458		105					463	96		
Crit Moves:		****		****					****	****		

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Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #5 Central Ave. / I-105 Fwy WB On-Off Ramps

Cycle (sec): 100 Critical Vol./Cap.(X): 0.720 -0.10
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx =0.620
Optimal Cycle: 66 Level Of Service: C

Street Name:	Central									I-105 Fwy WB Ramps		
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Permitted			Permitted			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 2	0 0	0	0 2	0 1	0	0 0	0 0	1	0 1!	0 1
Volume Module:												
Base Vol:	308	902	0	0	926	502	0	0	0	280	3	500
Growth Adj:	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Initial Bse:	327	957	0	0	983	533	0	0	0	297	3	531
Added Vol:	0	5	0	0	9	7	0	0	0	0	0	4
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	327	962	0	0	992	540	0	0	0	297	3	535
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	327	962	0	0	992	540	0	0	0	297	3	535
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	327	962	0	0	992	540	0	0	0	297	3	535
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.10	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.10	1.00	1.10
FinalVolume:	360	962	0	0	992	540	0	0	0	327	3	588
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.00	0.00	0.00	2.00	1.00	0.00	0.00	0.00	1.07	0.01	1.92
Final Sat.:	2850	2850	0	0	2850	1425	0	0	0	1522	15	2738
Capacity Analysis Module:												
Vol/Sat:	0.13	0.34	0.00	0.00	0.35	0.38	0.00	0.00	0.00	0.21	0.21	0.21
Crit Volume:	180					540		0			306	
Crit Moves:	****					****					****	

LADWP 99th St Chlor Fac- EIR
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Level Of Service Computation Report
Circular 212 Planning Method (Future Volume Alternative)

Intersection #6 Central Ave. / I-105 Fwy EB On-Off Ramps

Cycle (sec): 100 Critical Vol./Cap.(X): 0.708 -0.10
Loss Time (sec): 0 Average Delay (sec/veh): xxxxxx =0.608
Optimal Cycle: 64 Level Of Service: C

Street Name:	Central									I-105 Fwy EB Ramps		
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0 3	0 1	2	0 2	0 0	1	0 1!	0 1	0	0 0	0 0
Volume Module:												
Base Vol:	0	673	298	462	740	0	539	128	418	0	0	0
Growth Adj:	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Initial Bse:	0	714	316	490	785	0	572	136	444	0	0	0
Added Vol:	0	1	0	7	2	0	4	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	715	316	497	787	0	576	136	444	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	715	316	497	787	0	576	136	444	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	715	316	497	787	0	576	136	444	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.10	1.00	1.00	1.10	1.00	1.10	1.00	1.00	1.00
FinalVolume:	0	715	316	547	787	0	634	136	488	0	0	0
Saturation Flow Module:												
Sat/Lane:	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425	1425
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	3.00	1.00	2.00	2.00	0.00	1.52	0.32	1.16	0.00	0.00	0.00
Final Sat.:	0	4275	1425	2850	2850	0	2154	462	1659	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.17	0.22	0.19	0.28	0.00	0.29	0.29	0.29	0.00	0.00	0.00
Crit Volume:			316	274					419	0		
Crit Moves:			****	****					****			