LOS ANGELES STREET CIVIC BUILDING PROJECT

FINAL ENVIRONMENTAL IMPACT REPORT

STATE CLEARINGHOUSE NO. 2012051030

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Contents

List of Tables ii
List of Acronyms and Abbreviations iii

Page

Chapter 1 Introduction 1-1
1.1 Environmental Review Process 1-1
1.2 Organization of the Final EIR 1-2
1.3 Summary of the Proposed Project and Environmental Impacts 1-2
1.3.1 Summary of Impacts 1-3
1.4 Selection of the Preferred Alternative 1-5
Chapter 2 Corrections and Additions to the Draft EIR 2-1
Chapter 1, Executive Summary 2-1
Section 4.3, Cultural Resources 2-4
Section 4.4, Geology and Soils 2-4
Section 4.9, Utilities, Service Systems, and Energy 2-4
Chapter 3 Responses to Comments 3-1
3.1 Comment Letters 3-1
3.2 Responses 3-1
Chapter 4 Mitigation Monitoring and Reporting Program 4-1
Chapter 5 List of Preparers 5-1

APPENDICES

Appendix A Water Supply Assessment

Appendix B Traffic Counts

Appendix C Queue Worksheets

Tables

Page

1-1 Comparison of Alternatives....1-4

4-1 Mitigation Monitoring and Reporting Program....4-3

Acronyms and Abbreviations

ACMs	asbestos-containing materials
ADA	Americans with Disabilities Act
BACT	best available control technology
BMPs	best management practices
CARB	California Air Resources Board
CBECS	Commercial Building Energy Consumption Survey
CCTV	closed-circuit television
CEQA	California Environmental Quality Act
CHBC	California Historical Building Code
CIDH	cast-in-drilled-hole
CIP	commuter information packet
EIR	environmental impact report
EUI	Energy Use Intensity
HABS	Historic American Buildings Survey
HALS	Historic American Landscape
HCM	Highway Capacity Manual
HOV	high-occupancy vehicles
hp	horsepower
HSR	Historic Structures Report
kWh	kilowatt hour
LAFD	Los Angeles Fire Department
MFC	Municipal Facilities Committee
MMRP	Mitigation Monitoring and Reporting Program
NPDES	National Pollutant Discharge Elimination System
OVA	organic vapor analyzer
Plan	City of Los Angeles 2009 Strategic Real Estate Plan
ppm	parts per million
proposed Project	Los Angeles Street Civic Building Project
SCAQMD	South Coast Air Quality Management District
SOV	single-occupancy vehicle
SUSMP	Standard Urban Stormwater Mitigation Plan
TC	Transportation Coordinator
TDM	Transportation Demand Management

TIC	Transportation Information Center
TMA	Transportation Management Association
TMP	Transportation Management Plan
TPH	total petroleum hydrocarbons
TRB	Transportation Research Board
TRPH	total recoverable petroleum hydrocarbons
V/C	volume to capacity
VOCs	volatile organic compounds

Chapter 1
Introduction

1.1 Environmental Review Process

The California Environmental Quality Act (CEQA) was enacted by the California Legislature in 1970 and requires public agency decision makers to consider the environmental effects of their actions. When a state or local agency determines that a proposed project has the potential for significantly adverse environmental effects after mitigation, an EIR is required to be prepared. The purpose of an EIR is to identify potentially significant adverse effects of a proposed project on the environment, to identify alternatives to the proposed project, and to indicate the manner in which those significant effects can be mitigated or avoided.

In accordance with State CEQA Guidelines Section 15121(a), the purpose of an EIR is to serve as an informational document that: "will inform public agency decision-makers and the public generally of the significant environmental effect of a project, identify possible ways to minimize the significant effects, and describe reasonable alternatives to the project." The proposed Project requires discretionary approval from the City of Los Angeles and, therefore, it is subject to the requirements of CEQA. This EIR has been prepared in accordance with the requirements of CEQA. The following is an overview of the environmental review process for this Project.

Notice of Preparation

In accordance with Section 15082 of the State CEQA Guidelines, the City prepared a Notice of Preparation (NOP) of an EIR for the Project on May 9, 2012. This notice was circulated to the public, local, and State agencies, and other interested parties to solicit comments on the proposed Project. Concerns raised in response to the NOP were considered during preparation of the Draft EIR. The NOP and responses by interested parties are presented in Appendix A of the Draft EIR.

Draft EIR

The Draft EIR was released for public and agency review on September 5, 2013 and ended on October 21, 2013. In addition, a public meeting to receive comments on the Draft EIR from members of the public was held on October 15, 2013. The Draft EIR contained a description of the Project, description of the environmental setting, identification of Project impacts, and mitigation measures for impacts found to be potentially significant, as well as an analysis and comparison of Project alternatives.

Final EIR

Following the close of the public review period, the City received eight individual comment letters from agencies, interested parties, and the public regarding the Draft EIR. This Final EIR responds to these written comments and provides any minor edits to the Draft EIR as well as providing the Mitigation Monitoring and Reporting Program (MMRP). This Final EIR is being distributed to provide the basis for decision-making by the CEQA lead agency. Certification of the EIR for the Project must precede Project approval. Project approval requires that the City review and consider the EIR; adopt Findings of Fact on the significant environmental effects of the Project and the

feasibility of mitigation measures and Project alternatives; adopt a Statement of Overriding Considerations; approve a specific Alternative analyzed in the EIR; and adopt a Mitigation Monitoring and Reporting Program (MMRP).

1.2 Organization of the Final EIR

This chapter presents background and introductory information for the proposed Los Angeles Street Civic Building Project (the proposed Project). This chapter also presents the authorities of the Los Angeles Department of Public Works, the Lead Agency preparing this Environmental Impact Report (EIR), the scope and content of the EIR, list of Responsible and Trustee agencies, and the public outreach for the proposed Project. The proposed Project is described in detail in this chapter along with a brief listing of general changes and modifications made to the Draft EIR. Chapter 3, "Response to Comments," presents information regarding the comments on the Draft EIR, and responses of the lead agency. Chapter 2 presents changes made to the Draft EIR. The Mitigation Monitoring and Reporting Program (MMRP) prepared for the Project is provided in Chapter 4.

This Final EIR has been prepared in accordance with the requirements of the California Environmental Quality Act (CEQA) (Pub. Res. Code §21000 et seq.) and the State CEQA Guidelines (Cal. Code of Regs. Tit. 14, §15000 et seq.). The EIR describes the affected resources and evaluates the potential adverse environmental impacts to those resources. This EIR will be used: to inform decision-makers and the public about the environmental effects associated with the construction and operation of the proposed Project; to evaluate reasonable and feasible alternatives to the proposed Project; and to propose mitigation measures that would avoid or reduce the significant adverse environmental effects of the proposed Project.

1.3 Summary of the Proposed Project and Environmental Impacts

The Draft EIR analyzed three build alternatives in detail as well as the No Project Alternative. Under each build alternative, office and commercial space, and a child care facility are proposed in various configurations and sizes depending upon the alternative. These alternatives represent conceptual designs and, therefore, some flexibility within each conceptual alternative has been accounted for in order to meet the future needs of the City. The following discussion is a brief summary of each of the alternatives analyzed in the Draft EIR.

Alternative A – No Project

The No Project Alternative assumes that the project would not be approved and no new development would occur within the project site. Thus, the physical conditions of the project site would largely remain as they are today. No new buildings would be constructed, and the existing Parker Center building would remain unimproved and vacant.

Alternative B1 – Rehabilitation

Under Alternative B1, the existing Parker Center building would be rehabilitated with various improvements, including seismic retrofitting, fire safety improvements, and upgrades to ensure energy efficiency. Americans with Disabilities Act (ADA) upgrades would be implemented. The

existing 319,048 gross square-foot building would be reconfigured to provide office space for City employees, and rentable commercial space. The existing parking garage would be expanded to provide approximately 137 parking spaces. Alternative B1 also includes an optional inter-building tunnel that would connect City Hall East to the rehabilitated Civic Building.

Alternative B2 – Partial Demolition, Rehabilitation, and Addition

Alternative B2 would include rehabilitation of a majority of the Parker Center building, similar to that of Alternative B1 as well as demolition of the Parker Center jail, which would be replaced with an expansion building. Combined with the existing Parker Center building, the expansion would expand the gross square footage to approximately 522,255 square feet, of which approximately 338,684 square feet would be usable for office space and approximately 16,500 square feet would be for commercial space and a child care facility. A connection between the expansion and the Parker Center building would be constructed. Approximately 328 parking spaces would be provided with this alternative. The expansion building would have a maximum height of approximately 200 feet. Alternative B2 also includes an optional inter-building tunnel that would connect City Hall East to the rehabilitated Civic Building.

Alternative B3 – Demolition and Build

Alternative B3 would result in the full demolition of the existing Parker Center building and construction of a new office building, which would consist of approximately 753,730 gross square feet, and approximately 1,173 parking spaces with a maximum height of approximately 450 feet. The proposed 753,730-square-foot program could be accommodated in one or two buildings on the site. The new building(s) could take on a variety of configurations, but would generally fill the footprint of the existing Parker Center building. Outdoor open space and a pedestrian connection between City Hall to the west, and the Little Tokyo neighborhood to the east and south would be provided. Alternative B3 also includes an optional inter-building tunnel or bridge that would connect City Hall East to the rehabilitated Civic Building.

1.3.1 Summary of Impacts

As presented in the Draft EIR, potentially significant environmental impacts have been identified in the areas of Aesthetics, Air Quality, Cultural Resources, Land Use and Traffic. Table 1-1 provides a summary of each of the alternatives impacts and their associated significance.

Table 1-1. Comparison of Alternatives

Alternative Impacts [a]	Alternatives			
	A – No Project	**B1 – Rehabilitation**	**B2 – Partial Demolition, Rehabilitation, and Addition**	**B3 – Demolition and Build**
Aesthetics				
Scenic Resources	NI	LTS	LTS	SU
Visual Character and Quality	NI	LTS	LTS	LTS
Glare, Nighttime Lighting, and Shade/Shadow	NI	LTS	LTS	SU
Air Quality and Greenhouse Gas Emissions				
Construction Emissions	NI	LTS (M)	SU	SU
Inter-Building Circulation Option	NI	SU	SU	SU
Operations-period Emissions	NI	LTS	SU	SU
Greenhouse Gas Emissions	NI	LTS (M)	LTS (M)	LTS (M)
Cultural Resources				
Historical Resources	NI	SU	SU	SU
Archaeological Resources	NI	LTS (M)	LTS (M)	LTS (M)
Paleontological Resources	NI	LTS (M)	LTS (M)	LTS (M)
Geology and Soils				
Seismic Hazards	NI	LTS (M)	LTS (M)	LTS (M)
Soil Stability	NI	LTS	LTS	LTS
Hazards and Hazardous Materials				
Contaminated soil	NI	LTS (M)	LTS (M)	LTS (M)
Groundwater contamination	NI	LTS (M)	LTS (M)	LTS (M)
Asbestos and lead-based paint	NI	LTS (M)	LTS (M)	LTS (M)
Land Use and Planning				
Physical division of community	NI	LTS	LTS	LTS
Conflicts with land use plans	NI	LTS	LTS	SU
Noise and Vibration				
Construction Noise	NI	LTS	LTS	LTS
Construction Vibration	NI	LTS	LTS	LTS
Operational Traffic Noise	NI	LTS	LTS	LTS
HVAC Noise	NI	LTS	LTS	LTS
Airport Noise	NI	LTS	LTS	LTS
Transportation and Traffic				
Construction traffic	NI	LTS	LTS	LTS
Operational traffic	NI	LTS (M)	SU	SU

Alternative Impacts [a]	Alternatives			
	A – No Project	B1 – Rehabilitation	B2 – Partial Demolition, Rehabilitation, and Addition	B3 – Demolition and Build
Utilities, Service Systems, and Energy				
Wastewater Treatment Requirements and Capacities	NI	LTS	LTS	LTS
Water Facilities and Supplies	NI	LTS	LTS	LTS
Storm Water Drainage Facilities	NI	LTS	LTS	LTS
Solid Waste Disposal Capacity and Regulations	NI	LTS	LTS	LTS
Energy Conservation	NI	LTS	LTS	LTS

[a] The Inter-Building Circulation Option is included under each of the build alternatives. If the impact is the same under the alternative with or without the option, then it is not listed in this table. If the impact is different, then the option is listed in this table.

Note:

NI: No Impact
LTS: Less Than Significant Impact
LTS (M): Less Than Significant Impact with Mitigation
SU: Significant and Unavoidable Impact
Impacts of the build alternative are greater than to the other build alternatives.
Impacts of the build alternative are more severe than one or more build alternatives, but less severe than one or more build alternatives.
Impacts of the build alternative are similar to the other build alternatives.
Impacts of the build alternative are less than the other build alternatives.
Source: ICF International, 2012.

As shown in Table 1-1, Alternative B1 would result in a significant and unavoidable impact on Cultural Resources and Air Quality (with the Inter-Building Circulation Option). Alternative B2 would result in three significant and unavoidable impacts in the areas of Air Quality, Cultural Resources, and Traffic. Alternative B3 would result in six significant and unavoidable impacts in the areas of Aesthetics, Air Quality, Cultural Resources, Land Use, and Traffic.

1.4 Selection of the Preferred Alternative

Following the Draft EIR public comment period and after examining the Draft EIR comments received during the public comment period, and other relevant information, the City of Los Angeles, Municipal Facilities Committee (MFC) accepted the Bureau of Engineering recommendation to designate Alternative B3 as the Preferred Alternative on March 27, 2014. This recommendation is based on the following:

1. The City's current office space need, based on current staffing in the Civic Center area, is approximately 1.1 million square feet and Alternatives B1 and B2 fall significantly short of providing the adequate amount of office space to meet this need.

2. The surrounding community, namely the Little Tokyo community, expressed strong support for Alternative B3 because it affords the greatest amount of opportunity for visual and physical connectivity between the Civic Center area and the Little Tokyo neighborhood. By eliminating the existing building footprint, a new pedestrian corridor through the Parker Center parcel can be provided which would allow for increased connectivity between the Civic Center, Grand Park, and the Disney Concert Hall.

3. Alternative B3 provides the most commercial space that would serve the greater community as opposed to only serving City employees.

4. By providing a new floor plate, Alternative B3 would provide the best ratio of net to gross square feet, which has the greatest efficiency in terms of space usage. The ratio of gross to net square footage for each alternative is as follows:

   - Alternative B1: 174,331 net square feet /319,048 gross square feet = 55%
   - Alternative B2: 354,499 net square feet /522,255 gross square feet = 68%
   - Alternative B3: 588,240 net square feet /753,730 gross square feet = 78%

   In addition to being a more efficient use of space, City department organization in a new building could be customized for maximum efficiency.

5. A brand new building would be designed and constructed of new and sustainable materials that will have the longest service life. Space planning in a new building also allows for modern office organization, which improves productivity. A new building could also provide a new image and focal point for the Civic Center, using creative design.

6. Alternative B3 is the most cost efficient because of the floor plate flexibility, which provides a more efficient flow of people between floors and departments.

7. Alternative B3 provides the best parking arrangement and meets zoning code requirements of 1 parking stall per 1,000 feet, which is exceeded by this Alternative. As an expressed concern of the community, the provision of adequate parking is a key consideration of the City.

The City's final selection of project alternative will occur when the EIR is certified and the project is approved.

Chapter 2
Corrections and Additions to the Draft EIR

This chapter of the Final EIR provides changes that have been made to clarify or correct information in the Draft EIR. These changes are minor and are a result of minor public and agency comments as well as additional non-substantive information received since publication of the Draft EIR. The changes described in this section do not result in any new or increased environmental impacts that would result from the project. The changes to the Draft EIR are indicated in this section under the appropriate Draft EIR chapter or section. Deletions are shown with ~~strikethrough~~ and additions are shown with underline.

Chapter 1, Executive Summary

Chapter 1, Section 1.2.3, page 1-2, corrected the square footage of office space for Alternative B2 as follows:

> Alternative B2 would include rehabilitation of a majority of the Parker Center building, similar to that of Alternative B1 as well as demolition of the Parker Center jail which would be replaced with an expansion building. Combined with the existing Parker Center building, the expansion would expand the gross square footage to approximately 522,255 square feet, of which approximately 338,644 square feet would be usable for office space and approximately 16,500 square feet would be for commercial space and a child care facility. A connection between the expansion and the Parker Center building would be constructed. Approximately 328 parking spaces would be provided with this alternative. The expansion building would have a maximum height of approximately 200 feet. Alternative B2 also includes an optional inter-building tunnel that would connect City Hall East to the rehabilitated Civic Building.

Chapter 1, Section 1.5, page 1-11, Table 1-2, reference to the project in the Geology and Soils as follows:

Geology and Soils			
The ~~alternative~~ project would place people in an area known to have seismic hazards related to earthquakes.	Significant	**G-1**: Construction and structural design of the project shall comply with all of the geotechnical recommendations, including design measures, provided in the geotechnical engineering report prepared for the project as described below: • ~~Each build alternative~~The proposed project shall follow the August 2004 geotechnical report's general recommendation of new structures being founded on spread footing foundations and/or Cast-In-Drilled-Hole (CIDH) pile foundations. The specifications for Cast-in-Drilled Hole Pile Construction, Retaining Walls, Slab-on-Grade, and Cement and Asphalt Pavements shall be followed where applicable under all build alternatives. • Under the proposed project~~each build alternativ~~e, where applicable, the existing Parker Center foundation walls shall be structurally evaluated to determine their capability to resist unbalanced earth loads that will occur as the result of adjacent excavation, and shoring shall be installed to provide lateral support where needed. • The proposed project ~~All build alternatives~~ shall follow the specifications in the August 2004 geotechnical report regarding site preparation and earthwork, where applicable. • The general specification for Structure Foundations, as described in the August 2004 geotechnical report, will be considered appropriate, with probable minor modifications to minimum sizes and total expected settlement~~, depending on the Build Alternative that is selected~~. The given soil specifications, such as allowable bearing pressures and coefficients of friction, shall be similar to those used for the proposed project~~build alternatives~~.	Less than significant

Chapter 1, Section 1.5, page 1-30, Table 1-4, revised Mitigation Measure references and text for HR-5, HR-6, and HR-7

Cultural Resources			
This alternative would result demolition of the Parker Center building and its remaining associated landscape features.	Significant	**HR-3**: (See Table 1-2 above) ~~**HR-4**: (See Table 1-3 above)~~ **HR-5:** ~~The City shall document Parker Center according to HABS/HALS guidelines before demolition takes place~~. Based on the HABS/HALS documentation, the City shall create a display interpreting the building's significance and displaying it in the public spaces of the building within a month of the issuance of the Certificate of Occupancy. **HR-6:** ~~The City shall incorporate Parker Center's original public art pieces, "Theme Mural of Los Angeles" and "Family Group," into the design and setting of the new building. These public art elements shall be installed at the time of issuance of the Certificate of Occupancy.~~ The City shall document Parker Center according to HABS/HALS guidelines before demolition takes place. **HR-7:** The City shall incorporate Parker Center's original public art pieces, "Theme Mural of Los Angeles" and "Family Group," into the design and setting of the new building or the police headquarters building on 1st Street. These public art elements shall be installed at the time of issuance of the Certificate of Occupancy.	Significant and unavoidable

Section 4.3, Cultural Resources

Chapter 4, Section 4.3.1.4, page 4.3-36, corrected Mitigation Measure HR-7 as follows:

Alternative B3 – Demolition and Build

Mitigation Measures HR-3 and HR-5 shall be implemented with Alternative B3. In addition, the following mitigation measures shall be implemented with Alternative B3.

HR-6: The City shall document Parker Center according to HABS/HALS guidelines before demolition takes place.

HR-7: The City shall incorporate Parker Center's original public art pieces, "Theme Mural of Los Angeles" and "Family Group," into the design and setting of the new building or the police headquarters building on 1st Street. These public art elements shall be installed at the time of issuance of the Certificate of Occupancy.

Section 4.4, Geology and Soils

Chapter 4, Section 4.4.4.2, page 4.4-9, corrected reference to the project as follows:

G-1: Construction and structural design of the project shall comply with all of the geotechnical recommendations, including design measures, provided in the geotechnical engineering report prepared for the project as described below:

- ~~Each build alternative~~The proposed project shall follow the August 2004 geotechnical report's general recommendation of new structures being founded on spread footing foundations and/or Cast-In-Drilled-Hole (CIDH) pile foundations. The specifications for Cast-in-Drilled Hole Pile Construction, Retaining Walls, Slab-on-Grade, and Cement and Asphalt Pavements shall be followed where applicable under all build alternatives.
- Under the proposed project~~each build alternative~~, where applicable, the existing Parker Center foundation walls shall be structurally evaluated to determine their capability to resist unbalanced earth loads that will occur as the result of adjacent excavation, and shoring shall be installed to provide lateral support where needed.
- The proposed project ~~All build alternatives~~ shall follow the specifications in the August 2004 geotechnical report regarding site preparation and earthwork, where applicable.
- The general specification for Structure Foundations, as described in the August 2004 geotechnical report, will be considered appropriate, with probable minor modifications to minimum sizes and total expected settlement~~, depending on the Build Alternative that is selected~~. The given soil specifications, such as allowable bearing pressures and coefficients of friction, shall be similar to those used for the proposed project~~build alternatives~~.

Chapter 4, Section 4.9, Utilities, Service Systems, and Energy

4.9.3.4 Operational Impacts

Water Facilities and Supplies

As discussed in the Environmental Setting section, the site is served by existing water facilities. According to LADWP, upgrades to the water system may be required to meet the current City Department of Building and Safety and Fire Department requirements related to minimum levels of

water pressure. LADWP has determined that existing static water pressure surrounding the project area ranges from 60 to 80 pounds per square inch, and that there are no known problems or deficiencies in the area (Fernandez, 2012). If any upgrades to the water supply conveyance system are needed, they would be evaluated during the permitting process and would be addressed as a condition of project approval. In compliance with existing Municipal Code requirements contained in Section 125.03, all build alternatives would install low-flow flush toilets and water-saving urinals, which would minimize the amount of water used at the project site. Other water use on the site would include the watering of landscaped areas and water used in routine cleaning on the site, but the primary use of water on the site would be related to use of bathrooms and kitchens within the office buildings. Therefore, the water demand of the build alternatives is closely approximated by the amount of wastewater generated.

The 2010 LADWP Urban Water Management Plan has based its assumptions for water management on population and employment projections within the service area (i.e., slightly larger than the boundaries of the City of Los Angeles). According to these projections, the service area population is expected to increase 0.36 percent annually and total employment is anticipated to increase 0.38 percent annually between 2010 and 2035.

The UWMP estimates that annual demand for water in the LADWP service area in 2035 will be 710,800 acre-feet, for which LADWP forecasts sufficient water supply (LADWP 2010). Refer to Table 4.9-3 regarding the estimated water usage rates of the build alternatives.

At full-capacity operation, Alternative B3 (i.e., the alternative with the greatest water use) would require approximately ~~113,460~~99,191 gallons of water per day (~~127.2~~ 111 acre-feet per year), which is approximately 0.01~~68~~ percent of the total water demand in the service area by 2035. The UWMP is required to be updated every five years, and water supply and demand planning will be updated at regular intervals.

The proposed project meets the definition of a "Project" subject to the provisions of the California Water Code requiring preparation of Water Supply Assessment (WSA). LADWP prepared a WSA for the project in April 2014 (Appendix A of this Final EIR). The WSA was approved by the Board of Water and Power Commissioners of the City of Los Angeles on May 20, 2014 (Resolution No. 014207). As described in the WSA, the project is estimated to increase the total water demand within the project site by a maximum of 111 acre-feet (AF) annually (Alternative B3). The results of the WSA are presented in Table 4.9-3. As shown in Table 4.9-3, Alternative B1 would result in less water consumption than Alternatives B2 or B3 due to the smaller floor space and fewer employees. Given that Alternative B1 would rehabilitate an existing building and would install modern water-saving technologies, water supply impacts related to operation of Alternative B1 would be less than significant.

Table 4.9-3. Estimated Operational Water Usage (in gallons per day)

Proposed Use	**Water Usage Factor[a] (gpd/unit)**	**Alternative B1**	**Alternative B2**	**Alternative B3**
Office ~~Building~~	0.12~~0.15~~ per square foot	19,420~~47,858~~ gpd (161,831~~319,050~~ sf)	38,812 ~~78,354~~gpd (323,434 ~~522,360~~ sf)	67,708~~113,060~~ gpd (564,230~~753,730~~ sf)
Childcare ~~School: Day Care Center~~	9~~8 gpd~~ per child[c]	270~~400~~ gpd (30 children)	270~~400~~ gpd (30 children)	360~~400~~ gpd (40 children)
Auditorium	3 per seat	N/A	N/A	1,416 gpd (472 seats)
Retail	0.025 per square foot	125 gpd (5,000 sf)	125 gpd (5,000 sf)	125 gpd (4,985 sf)
Restaurant-Full Service (Indoor Service)	30 per seat	5,010 gpd (167 seats)	16,320 gpd (544 seats)	5,010 gpd (167 seats)
Lobby	0.05 per square foot	N/A	N/A	462 gpd (9,240 sf)
Parking	0.658 per thousand square feet	13 gpd (20,000 sf)	91 gpd (138,800 sf)	311 gpd (472,000 sf)
Cooling Towers	18.64 per ton	14,913 gpd (800 tons)	26,098 gpd (1,400 tons)	37,282 gpd (2,000 tons)
Landscaping	N/A	N/A	1,215 gpd (17,100 sf)	4,421 gpd (62,170 sf)
Water Efficiency Requirements Ordinance Savings		- 6,169 gpd	- 9,853 gpd	- 12,768 gpd
Existing to be Removed		0	- 924 gpd	- 5,135 gpd
TOTALS (in gallons per day)		**33,582 ~~48,258~~ gpd**	**73,336 ~~78,754~~ gpd**	**99,191~~113,460~~ gpd**

[a] Water usage factor is based on LADWP Water Supply Assessment prepared for the project. ~~Water usage factor is based on City of Los Angeles Department of Public Works, Bureau of Sanitation Sewer Generation Rates table~~.

~~[b] The building would also include retail space, which has a generation factor of 0.8 gpd per gross square foot. The office building generation factor was used to calculate sewage generation because it is the most conservative.~~

~~[c] A maximum of 50 children is assumed.~~

Abbreviations:

gpd – gallons per day

sf – square feet

Source: Department of Water and Power, 2014~~ICF International, 2012~~.

Alternative B2 would result in an increase in floor area and would accommodate approximately 1,775 city employees. This would result in a marked increase in water usage at the project site when compared to existing conditions; however, modern water-saving technologies, ~~and~~ fixtures, and other water conservation measures would be implemented~~installed~~ as part of the proposed project ~~that would reduce water consumption~~. These features include limits on showerheads, rotating sprinkler nozzles for landscape irrigation (0.5 gallons per minute), weather-based irrigation controls, drought tolerant plantings, cooling tower conductivity controllers, water-saving pool filters, leak detection systems, hydro-zoning of landscaping, zoned irrigation, landscaping contouring, and weather conserving turf. Furthermore, given that the use of the project would be primarily for office space, which is not a water-intensive land use, and that hours of operation would be limited to weekday work hours, the water usage under Alternative B2 would not be substantial and associated impacts would be less than significant.

Similar to Alternative B2, Alternative B3 would also increase the floor area and the employee count at the project site, but to a greater magnitude than under either of the other two build alternatives. Accordingly, water consumption would be greatest under Alternative B3. However, as previously stated, water-saving technologies, ~~and~~ fixtures, and other water conservation measures proposed under each of the alternatives would help to reduce water consumption. Additionally, Alternative B3 similarly contemplates a primarily office space operation, though some more water intensive uses are proposed under Alternative B3, such as a health club that may include facilities such as pools or saunas. Also, as described above, at maximum capacity, water demand under Alternative B3 would only account for approximately 0.016~~8~~ percent of the total water demand in the LADWP service area, which is not a substantial proportion of the total demand in the LADWP service area. As stated in the LADWP WSA, the maximum increase of 111 AF per year under Alternative B3 falls within the available and projected water supplies for normal, single-dry, and multiple-dry years through the year 2035 as described in LADWP's Urban Water Management Plan. LADWP has found that it would be able to meet the water supply demands of the project as well as existing and future water demands in the service area. Finally, under Alternatives B1, B2, and B3, the proposed project would be consistent with the City of Los Angeles General Plan land use and zoning designations; as such, the proposed project's water demand has been accounted for in the most recently adopted UWMP. Therefore, a less-than-significant impact would occur under each build alternative.

Chapter 3
Responses to Comments

3.1 Comment Letters

The following agencies, organizations, and individuals provided written comments on the Draft EIR to the City of Los Angeles Department of Public Works, Bureau of Engineering, during the 45-day review period from September 5 to October 21, 2013. A public meeting for the Draft EIR was held on October 15, 2013, at which time transcribed oral and written comments were received. The comment letters and their responses are arranged by (a) state agencies (b) regional and local agencies, (c) organizations, (d) individuals, and (e) public meeting written comments and transcribed oral comments. A copy of each comment letter and transcribed oral comment as well as the corresponding responses are provided in Section 3.2.

State Agencies

Letter 1 State Clearinghouse

Letter 2 State of California Department of Transportation

Regional and Local Agencies

Letter 3 South Coast Air Quality Management District

Letter 4 County of Los Angeles Fire Department

Organizations

Letter 5 Los Angeles Conservancy

Individuals

Letter 6 Ms. Joyce Dillard

Meeting Comments

Letter 7 Public Meeting Written Comments

Letter 8 Public Meeting Transcript of Oral Comments

3.2 Responses

This section contains written responses to each of the comments on the Draft EIR received during the public review period. Each letter is identified by a number, and each comment is delineated and numbered.

State Agencies

Letter 1 State Clearinghouse

Letter 1

STATE OF CALIFORNIA

Governor's Office of Planning and Research

State Clearinghouse and Planning Unit

Edmund G. Brown Jr.
Governor

Ken Alex
Director

October 22, 2013

Mahmood Karimzadeh
City of Los Angeles
1149 South Broadwy, Suite 600
Los Angeles, CA 90015-2213

Subject: LA Street Civic Building Project aka Old Parker Center
SCH#: 2012051030

Dear Mahmood Karimzadeh:

The State Clearinghouse submitted the above named Draft EIR to selected state agencies for review. The review period closed on October 21, 2013, and no state agencies submitted comments by that date. This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act. 1-1

Please call the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process. If you have a question about the above-named project, please refer to the ten-digit State Clearinghouse number when contacting this office.

Sincerely,

Scott Morgan
Director, State Clearinghouse

1400 TENTH STREET P.O. BOX 3044 SACRAMENTO, CALIFORNIA 95812-3044
TEL (916) 445-0613 FAX (916) 323-3018 www.opr.ca.gov

Document Details Report
State Clearinghouse Data Base

SCH# 2012051030
Project Title LA Street Civic Building Project aka Old Parker Center
Lead Agency Los Angeles, City of

Type EIR Draft EIR

Description Three potential alternatives are under consideration for the former Parker Center (former headquarters for the City of Los Angeles Police Department, now vacant and closed): (1) rehabilitate existing building; (2) partially demolish, rehabilitate and add to the existing building; and (3) demolish the existing building and build a new building. Under each alternative City Department offices, parking facilities, a cafeteria, and commercial space would be provided. An optional inter-building bridge or tunnel that would connect City Hall East to the rehabilitated Civic Building is also being considered. The new or improved facility would support the City's sustainability initiatives by rehabilitating or constructing a building that meets the City's Green Building Code.

Lead Agency Contact

Name Mahmood Karimzadeh
Agency City of Los Angeles
Phone (213) 485-4282 **Fax**
email
Address 1149 South Broadwy, Suite 600
City Los Angeles **State** CA **Zip** 90015-2213

Project Location

County Los Angeles
City Los Angeles, City of
Region
Lat / Long 34° 3' 8" N / 118° 14' 25" W
Cross Streets Los Angeles Street, 1st St., Temple St., Judge John Aiso St.
Parcel No. 5161013904/5161013905
Township 1S **Range** 13W **Section** **Base**

Proximity to:

Highways Hwy 60, 110, 101, 10, 5
Airports
Railways Metrolink/Amtrak
Waterways LA River
Schools Castelar ES
Land Use Public Facilities/PF-2D

Project Issues Air Quality; Archaeologic-Historic; Geologic/Seismic; Noise; Toxic/Hazardous; Traffic/Circulation; Landuse; Cumulative Effects; Aesthetic/Visual

Reviewing Agencies Resources Agency; Department of Fish and Wildlife, Region 5; Office of Historic Preservation; Department of Parks and Recreation; Department of Water Resources; California Highway Patrol; Caltrans, District 7; Regional Water Quality Control Board, Region 4; Native American Heritage Commission; Public Utilities Commission

Date Received 09/06/2013 **Start of Review** 09/06/2013 **End of Review** 10/21/2013

Letter 1 State Clearinghouse

Responses

1-1 Confirmation of receipt of the Draft EIR by the State Clearinghouse is acknowledged. As stated by the letter, the review period closed on October 21, 3013. No state agencies submitted comments by the end of the review period; therefore, no further response is needed.

Letter 2 State of California Department of Transportation

STATE OF CALIFORNIA—BUSINESS, TRANSPORTATION AND HOUSING AGENCY EDMUND G. BROWN, JR. Governor

DEPARTMENT OF TRANSPORTATION
DISTRICT 7, OFFICE OF TRANSPORTATION PLANNING
IGR/CEQA BRANCH
100 MAIN STREET, MS # 16
LOS ANGELES, CA 90012-3606
PHONE: (213) 897-9140
FAX: (213) 897-1337

Flex your power!
Be energy efficient!

October 21, 2013

Mr. Jim Doty
City of Los Angeles
Department of Public Works, Bureau of Engineering
1149 South Broadway, Suite 600
Los Angeles, CA 90015-2213

Re: **Los Angeles Street Civil Building Project**
(Old Parker Center Property)
Draft Environmental Impact Report (DEIR)
SCH#2012051030, IGR No: 130917/EA
Vic: LA / 101 / PM 0.367 – 0.965

Dear Mr. Doty

The California Department of Transportation (Caltrans) has reviewed the transportation/traffic section of DEIR prepared for the proposed Los Angeles Street Civic Building. The proposed project would reactivate the existing Parker Center property to provide office space for City of Los Angeles employees. It would involve one of three potential build alternatives under consideration: (1) Rehabilitation, (2) Partial Demolition, Rehabilitation, and Addition (3) Demolition and Build. The Demolition and Build alternative would represent the worst case scenario for transportation impacts to State facilities (US 101). Under alternative B3, a new building would be constructed consisting of approximately 754,000 square feet for primarily office space. The conceptual design envisions a 27-story rectangular office tower.

Based on a review of the Traffic Impact Study (TIS) included in the DEIR, Caltrans has the following comments:

2-1

According to Table 4.8-6, alternative B3 could generate 13,534 average daily vehicle trips with 1,048 occurring during the AM peak hour and 1,374 during the PM peak hour. These trip generation estimates have already taken into consideration reductions for transit trips (25%), walking trips (5%), internal captured trips (10%), central business district (CBD) adjustment for retail (50%), and trips related to existing uses to be removed. Table 4.8-15 shows that the project could add up to 167 vehicle trips to US101 freeway in the northbound direction during the AM peak hour and 122 in the southbound direction during the PM peak hour. The same table shows that US101 currently operates over capacity (D/C >1). Then, the added trips from the proposed project would be potentially significant as they may worsen existing freeway congestion. Additionally, traffic generation from future related projects would also contribute cumulatively to potentially significant impacts to US101. No mitigation measures are proposed for potential significant impacts to US101, therefore, these impacts would be significant and unavoidable.

The traffic impact study did not analyze the US101 southbound off-ramp to Los Angeles Street; even though, it would provide logical access to the project site. Please revise the traffic study to include

2-2

analysis of this off-ramp to determine whether its existing configuration is adequate to accommodate projected queues in the future with project scenario and if improvements would be needed. Caltrans requests an operational analysis according to Highway Capacity Manual (HCM) methodology. **2-2 cont'd.**

Future traffic projections only go to 2018, the planned opening year. It is requested that traffic projections extend further to the horizon year for the area's community plan. The objective is to get a understanding of anticipated development and corresponding transportation needs. **2-3**

Caltrans acknowledges that the proposed project would include a comprehensive Transportation Demand Management (TDM) program and transit connectivity strategies (TRANS-1). TRANS-4 involves a one-time contribution of $250,000 to be deposited into the City's Bicycle Plan Trust Fund. To the extent that users shift to multimodal modes of transportation, potential impacts to the surrounding freeway system might be mitigated. Caltrans requests the City monitor the success of TDM programs and resultant effects to the freeway system. **2-4**

To address cumulative transportation impacts to freeways, Caltrans recommends the City establish a funding mechanism, similar to the West Los Angeles TIMP, for the downtown area for future transportation improvements and include improvements to US101 and surrounding freeways. **2-5**

If you have any questions regarding our comments, you may contact me or Elmer Alvarez, project coordinator at (213) 897 – 6696 or electronically at Elmer_Alvarez@dot.ca.gov. Please refer to internal record number 130917/EA.

Sincerely,

DIANNA WATSON
IGR/CEQA Branch Chief
Caltrans, District 7

cc: Scott Morgan, State Clearinghouse

Letter 2 State of California Department of Transportation

Responses

2-1 The traffic study for the Los Angeles Street Civic Building Project, completed in September 12, 2012, identified mitigation measures that include Transportation Demand Management (TDM) measures, transit connectivity measures, and a variety of aggressive, non-traditional measures to maximize mobility. These measures include strategies to increase the attractiveness of transit and non-motorized modes by offering services and strategies that offer flexible, cost-effective options to driving or owning a car. In addition, there are also some improvements available to implement traffic signal system upgrades to adjacent traffic signals.

LADOT's current policies and procedures on the preparation of traffic impact studies promote the goals of Assembly Bill 32 which support improvements that reduce greenhouse gas emissions. According to LADOT, TDM has the highest priority when considering transportation mitigation for a project. The applicant is proposing to implement comprehensive TDM and transit connectivity strategies to reduce additional project vehicle trips, which would minimize traffic-related impacts of the Project. The TDM plan would promote the City's policies through strategies to reduce vehicular use by Project employees and other users of the site (e.g., visitors) during peak periods and include transit and pedestrian-friendly amenities, such as safe and walkable sidewalks.

The goal of a TDM program is to help mitigate the traffic impacts of a project. The purpose of the program is to identify effective measures to reduce the number of automobile trips to/from the site. Typical measures include, but are not limited to, carpools, vanpools, public transit, walking, and bicycles. There is no single definitive recipe for success. The same strategies do not always work at different sites. The location of the site and the characteristics of the area can strongly influence the effectiveness and ultimate success of a TDM program. Similarly, the effort or vigor with which the program is operated can also affect its success or lack thereof. Studies have shown the most successful TDM programs are those that are tied to specific incentives and program elements, as opposed to the provision of general information on commuting alternatives. In addition, for these programs to succeed, they need to be "funded" for their duration. In addition to funding, successful programs are linked with aesthetically pleasing features such as "safe" pedestrian walkways, bike racks that are not located in faraway dark corners, and information kiosks that are easily accessible and up to date. In summary, the most successful and effective programs appear to be those whereby financial incentives are offered with aesthetic amenities.

The following sections summarize the toolbox of TDM and transit connectivity strategies that may effectively be applied to help mitigate the traffic impacts of the Project. It should be noted that a preliminary TDM and transit connectivity plan would need to be submitted to LADOT for approval prior to the issuance of the Project's first building permit, and a final TDM plan must be prepared and approved by LADOT prior to the issuance of the Project's first certificate of occupancy. The goals of these plans would need to be identified in the final TDM plan or site design.

Finally, it should be noted that many of these services and tools are critical to first-mile/last-mile mobility strategies. These strategies allow individuals to use or connect to bus and rail services easily via the implementation of policies or the provision of services and opportunities by a variety of service providers.

Potential TDM and Transit Connectivity Strategies

Site Improvements – Design and operation of the site should emphasize, to the extent feasible:

- Integrated Mobility Hub – Provide a financial contribution and the rent-free space needed to implement a new integrated mobility hub kiosk. The purpose of the kiosk is to attract transit users with more connectivity options for the first/last segment of a trip, such as bike parking, bike and car sharing, etc.
- Preferential loading and unloading for carpools, HOV, and taxis makes the site more convenient and attractive to passengers.
- Wayfinding signage guides that direct people to different elements of a site.
- Carpool and vanpool parking should be closes to the entrance of a building or on the first floor of a garage or structure to reward participants.
- Bicycle parking should be convenient, plentiful, well lit, and secure.
- Shower and locker facilities are an important part of the decision for an employee when considering whether to bike to work.
- Enhanced pedestrian and bicycle pathways for convenient, direct, and secure connections.

It must be emphasized that integrating non-automobile-oriented improvements into the heart of the site rather than off to the side or in a remote corner is paramount to the success of the strategies. Parking for bicycles should be convenient, near the front door to facilities, and plentiful and well lit.

Car Sharing and Short-Term Car Rental

Provide on-demand access to a fleet of cars for short-duration or unexpected trips. These programs reduce the need for individuals to own a car or perhaps a second one. They would enhance the transit-oriented nature of the Project because they would allow individuals who work and shop at the site to rely on transit with the knowledge that an automobile is available with relative ease for those trips where transit or other modes are impractical. These programs save costs to individuals and businesses and could reduce the parking demand of the Project.

Bike Sharing

Bike sharing is new to the United States. Locally, it has been implemented in the cities of Long Beach and Santa Monica and is planned to be implemented in the city of Los Angeles. With bike sharing, individuals have access to a shared fleet of bicycles on an as-needed basis. It provides a good alternative to automobiles and, because the regional bus fleet and rail systems are bike accessible, it provides a link to transit on both ends of a trip. An added benefit is reduced air pollutant emissions because of fewer vehicle trips.

Transportation Coordinator

A transportation coordinator (TC), a permanent on-site staff position, is assigned to administer the requirements of a TDM program. Under this strategy, a transportation management association (TMA) would be formed on-site, or the Project could become a part of an existing TMA in the area that would help promote awareness of the available TDM strategies and create Transportation Management Plans (TMPs) for the employees and patrons of the site.

Transportation Information Center

A Transportation Information Center (TIC) is a centrally located commuter information center where both employees and visitors can obtain information regarding commute programs, and individuals can obtain real-time information for planning travel without using an automobile. Strategically placed kiosks can provide trip planning and real-time bus and train arrival information for users. Providing real-time transit information allows users to know exactly when the next bus or train will arrive and is an important tool in enhancing transit system connectivity.

Transit, Bike, and Walk Promotions and Information Materials

This would include a commuter information packet (CIP), a commuter benefits brochure that contains complete information about various transportation benefits available to individuals, transportation/transit options, HOV programs and discounts, bicycling amenities, transportation subsidies, and other elements that may be available. The CIP should be written in multiple languages, such as English, Spanish, and Chinese. The CIP would be distributed to tenant employees and other building workers and occupants and at promotional events.

Tenant Participation

Under this strategy, the TC would facilitate tenant and employee awareness and participation in the TMP by distributing information to tenants at least once each year.

Carpooling and Rideshare Matching Opportunities

This strategy would coordinate ridesharing programs among various building tenants and their employees, provide ride-match services within the building, or engage other ride-match facilitators (such as tenants) to provide this service. It could be applied two different ways. One method would be to make available “on the spot” ridesharing. This strategy maximizes trip flexibility for individuals because they do not need to make long-term plans and commitments. There are a number of Internet-based programs that could be used to match the mobility needs of travelers with drivers. The more traditional method would be to have the TMA provide an online daily and/or long-term commute ride-matching service to match interested patrons with carpools and vanpools. The rideshare matching services could also be extended to other employers in proximity to the Project site.

Guaranteed Ride-Home Program

This strategy provides a guaranteed ride-home program for (occupants/employees) who use a commute mode other than driving. Employers may establish their own program or contract this service with a public agency or private contractor.

Transit Pass Sales

Under this strategy, employers or a central management operator can contract with Metro to become authorized to sell transit passes directly to their on-site employees. In addition, they could provide transportation subsidies to building occupants/employees who commute via non-motorized or non-single-occupancy vehicle (SOV) modes.

Commuter Benefits

This strategy, pursuant to Internal Revenue Code Section 132 (f), states that employers should arrange pre-tax transit commute expense accounts to provide transportation fringe benefits to eligible employees.

Flexible/Alternative Work Schedules and Telecommuting Programs

With this strategy, employers would allow employees to work flexible and alternative work schedules so that their arrival and departure to the site would vary and reduce trips during peak periods. Telecommuting would eliminate any trips to the site because the employee would be working off-site.

Expanded DASH Service

Provide additional service and/or capacity to the DASH downtown system via new routes to the Project site. Contributions could be in the form of the purchase of new DASH vehicles or subsidy of service for a fixed period of time.

Taxi Services

Taxis provide on-demand mobility for short and medium-length trips. Expanding the City's "hail-a-taxi" demonstration program to the Project site and surrounding area would provide convenient mobility alternatives for unscheduled or quick trips. In addition, taxis could and should be equipped to accept regional transit fare cards such as Metro TAP "smart card" technology. A single method of fare payment would greatly enhance non-auto-oriented trip choices. Taxi services can also complement the guaranteed ride-home program.

TDM Trip Reduction

Discussions with LADOT indicate that a trip reduction of 15 percent of the proposed land uses can be utilized as a result of the TDM measures. This would result in a reduction of 56 AM peak-period trips and 73 PM peak-period trips under Alternative B1, a reduction of 111 AM peak-period trips and 146 PM peak-period trips under Alternative B2, and a reduction of 167 AM peak-period trips and 219 PM peak-period trips under Alternative B3.

Potential Traffic Signal Upgrades

Additional mitigation efforts include potential traffic signal upgrades. Per LADOT:

> The traffic signals at many of the intersections within the city of Los Angeles currently operate using older Type 170 traffic signal controller. Newer Model 2070 controllers provide for enhanced and real-time operation of the traffic signal timing. Type 2070 controllers allow LADOT to provide instant adjustments to the signal's timing

parameters based on real-time traffic conditions. The upgrade of the controllers, when supplemented by the installation of strategically placed closed-circuit television (CCTV) cameras and additional vehicle detector loops, is expected to reduce the volume-to-capacity (V/C) ratio of an intersection by a minimum of 0.01. These traffic signal hardware upgrades are needed to provide for enhanced operation of the City's ATSAC signal system and allow LADOT to manage traffic in direct response to real-time traffic flow. The strategic placement of a CCTV camera affords LADOT the ability to monitor vehicles and buses and respond to incidents that cause excessive delays. If any of these traffic signal upgrades are proposed as mitigation to offset the significant traffic impacts of a development project, LADOT may require that not only the affected intersections but also any intersections in the immediate vicinity, as determined by LADOT, be upgraded by the Project to qualify for the intersection V/C reduction of 0.01.

To mitigate impacts at affected study intersections, traffic signal upgrades are recommended at two of the significantly affected study intersections and locations adjacent to the significantly affected study intersections. Given the locations of the recommended upgrades, it was determined that the six study intersections could apply the 0.01 reduction because of their proximity to the upgrade locations. Although some of the intersections may not be directly mitigated, the overall enhancement of the system allows for the reduction. The six intersections are:

- Los Angeles Street and Temple Street
- Judge John Aiso Street and Temple Street
- Alameda Street and Temple Street
- Main Street and 1st Street
- Los Angeles Street and 1st Street
- Judge John Aiso Street/San Pedro Street and 1st Street

The following signal locations are mentioned as potential sites for upgrades and are at or adjacent to the six study intersections listed above:

Study Intersections

1. Judge John Aiso Street and Temple Avenue (2070 controller upgrade and installation of system loops on all approaches)
2. 1st Street and Judge John Aiso Street/San Pedro Street (2070 controller upgrade and installation of system loops on all approaches)
3. 1st Street and Central Avenue (2070 controller upgrade and installation of system loops on all approaches)
4. 2nd Street and San Pedro Street (2070 controller upgrade and installation of system loops on all approaches)
5. 2nd Street and Central Avenue (2070 controller upgrade and installation of system loops on all approaches)
6. 2nd Street and Alameda Street (2070 controller upgrade and installation of system loops on all approaches)
7. 3rd Street and Los Angeles Street (2070 controller upgrade only)

Non-study Intersections/Locations

1. 1st Street and Hill Street (2070 controller upgrade only)
2. 1st Street between San Pedro Street and Central Avenue (2070 controller upgrade only)
3. 3rd Street and Alameda Street (2070 controller upgrade only)

The TDM reductions were applied to the Alternative B3 project trip generation totals. The freeway mainline analysis was updated to reflect the TDM reduction to the Alternative B3 project trips.

Freeway Analysis

Future with Alternative B3 Freeway Mainline Analysis

Freeway Segment	Direction	Peak Hour	Capacity	Existing			Project Alt B3 Only	Existing + Project (Alternative B3)			D/C Increase	Project Alt B3 Only TDM	Existing + Project (Alternative B3) with TDM			D/C Increase
				Volumes	D/C	LOS		Volumes	D/C	LOS			Volumes	D/C	LOS	
US-101 north of Vignes Street	NB	AM	10,000	11,118	1.112	F(0)	167	11,285	1.129	F(0)	0.017	141	11,259	1.126	F(0)	0.014
		PM	10,000	11,016	1.102	F(0)	78	11,094	1.109	F(0)	0.008	65	11,081	1.108	F(0)	0.007
	SB	AM	8,000	7,242	0.905	D	15	7,257	0.907	D	0.002	13	7,255	0.907	D	0.002
		PM	8,000	11,016	1.377	F(2)	122	11,138	1.392	F(2)	0.015	103	11,119	1.390	F(2)	0.013

Existing with Alternative B3 Freeway Mainline Analysis

Freeway Segment	Direction	Peak Hour	Capacity	Future without Project			Project Alt B3 Only	Future with Project (Alternative B3)			D/C Increase	Project Alt B3 Only TDM	Future with Project (Alternative B3) with TDM			D/C Increase
				Volumes	D/C	LOS		Volumes	D/C	LOS			Volumes	D/C	LOS	
US-101 north of Vignes Street	NB	AM	10,000	11,785	1.179	F(0)	167	11,952	1.195	F(0)	0.017	141	11,926	1.193	F(0)	0.014
		PM	10,000	11,677	1.168	F(0)	78	11,755	1.176	F(0)	0.008	65	11,742	1.174	F(0)	0.006
	SB	AM	8,000	7,677	0.960	E	15	7,692	0.962	E	0.002	13	7,690	0.961	E	0.002
		PM	8,000	11,677	1.460	F(3)	122	11,799	1.475	F(3)	0.015	103	11,780	1.473	F(3)	0.013

2-2 A supplemental analysis, for informational purposes, was conducted at the US-101 southbound off-ramp at Los Angeles Street per Caltrans' request.

New turning movement counts, which were conducted on Tuesday, October 29, 2013, were compiled at the US-101 southbound off-ramp/Los Angeles Street intersection. Peak-period turning movement counts were collected between the hours of 7 a.m. and 9 a.m. and 4 p.m. and 6 p.m. The highest four consecutive 15-minute vehicle counts during the two time periods were used to determine the peak-hour traffic volumes at each intersection. The traffic count data sheets are provided in Appendix B of this Final EIR.

Per the *Caltrans Guide for the Preparation of Traffic Impact Studies*, the *Highway Capacity Manual* (HCM) methodology published by the Transportation Research Board (TRB) was used to calculate the levels of service for the US-101 southbound off-ramp/ Los Angeles Street intersection in this supplemental analysis. The HCM expresses levels of service in terms of average delay (seconds per vehicle).

The existing and future conditions at the US-101 southbound off-ramp/Los Angeles Street study intersection are provided in the following tables. As shown on the tables, the intersection is projected to operate at LOS C or better under all of the scenarios with the exception of the future with-Project (Alternative B3) scenario. Under the future with-Project (Alternative B3) scenario, the US-101 southbound off-ramp/Los Angeles Street study intersection is projected to operate at LOS D. It should be noted that with TDM, the US-101 southbound off-ramp/Los Angeles Street study intersection is projected to have a delay of 25.5 seconds, which is just above the 25-second threshold for LOS C.

The existing US-101 southbound off-ramp at Los Angeles Street is approximately 490 feet long, with two lanes that are 325 feet long. The US-101 southbound off-ramp at Los Angeles Street can accommodate approximately 32 vehicles, assuming an average car length of 25 feet. As shown in the tables, the greatest queue occurred under the future with-Project (Alternative B3) scenario in which the ramp had a total queue of 14 to 15 vehicles (approximately seven vehicles per lane).

The queue worksheets are provided in Appendix C of this Final EIR.

Existing plus-Project Conditions, Alternative B1

		Existing				Existing plus Project (Alternative B1)				Existing plus Project (Alternative B1) with TDM			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
Study Intersection	**Analysis**	**Delay (sec)**	**LOS**	**Delay (sec)**	**LOS**	**Delay (sec)**	**LOS**	**Delay (sec)**	**LOS**	**Delay (sec)**	**LOS**	**Delay (sec)**	**LOS**
US-101 eastbound off-ramp and Los Angeles Street	Average delay	4.4	A	0.6	A	5.4	A	0.8	A	5.2	A	0.8	A
	Eastbound approach delay	13.9	B	9.1	A	15.4	C	9.3	A	15.1	C	9.2	A
	Queue 95th %tile (vehicle)*	1.7		0.2		2.4		0.3		2.2		0.3	

* Number of vehicles per lane.

Existing plus-Project Conditions, Alternative B2

		Existing				Existing plus Project (Alternative B2)				Existing plus Project (Alternative B2) with TDM			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
Study Intersection	**Analysis**	**V/C**	**LOS**	**V/C**	**LOS**	**V/C**	**LOS**	**V/C**	**LOS**	**V/C**	**LOS**	**V/C**	**LOS**
US-101 eastbound off-ramp and Los Angeles Street	Average delay	4.4	A	0.6	A	7.0	A	1.0	A	6.4	A	0.9	A
	Eastbound approach delay	13.9	B	9.1	A	18.1	C	9.5	A	17.1	C	9.4	A
	Queue 95th %tile (vehicle)*	1.7		0.2		3.5		0.4		3.1		0.4	

* Number of vehicles per lane.

Existing plus-Project Conditions, Alternative B3

		Existing				Existing plus Project (Alternative B3)				Existing plus Project (Alternative B3) with TDM			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
Study Intersection	**Analysis**	**V/C**	**LOS**	**V/C**	**LOS**	**V/C**	**LOS**	**V/C**	**LOS**	**V/C**	**LOS**	**V/C**	**LOS**
US-101 eastbound off-ramp and Los Angeles Street	Average delay	4.4	A	0.6	A	9.3	A	1.1	A	8.1	A	1.1	A
	Eastbound approach delay	13.9	B	9.1	A	22.4	C	9.6	A	20.1	C	9.6	A
	Queue 95th %tile (vehicle)*	1.7		0.2		5.1		0.5		4.3		0.5	

* Number of vehicles per lane.

Future 2018 with-Project Conditions, Alternative B1

Study Intersection	Analysis	Existing 2012				Future 2018 without Project				Future 2018 with Project (Alternative B1)				Future 2018 with Project (Alternative B1) with TDM			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
US-101 eastbound off-ramp and Los Angeles Street	Average delay	4.4	A	0.6	A	4.8	A	1.4	A	5.9	A	1.5	A	5.7	A	1.5	A
	Eastbound approach delay	13.9	B	9.1	A	15.9	C	10.0	B	18.1	C	10.1	B	17.6	C	10.1	B
	Queue 95th %tile (vehicle)*	1.7		0.2		2.5		0.6		3.5		0.7		3.3		0.7	

* Number of vehicles per lane.

Future 2018 with-Project Conditions, Alternative B2

Study Intersection	Analysis	Existing 2012				Future 2018 without Project				Future 2018 with Project (Alternative B2)				Future 2018 with Project (Alternative B2) with TDM			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
US-101 eastbound off-ramp and Los Angeles Street	Average delay	4.4	A	0.6	A	4.8	A	1.4	A	7.9	A	1.6	A	7.2	A	1.6	A
	Eastbound approach delay	13.9	B	9.1	A	15.9	C	10.0	B	22.1	C	10.4	B	20.7	C	10.3	B
	Queue 95th %tile (vehicle)*	1.7		0.2		2.5		0.6		5.0		0.9		4.5		0.8	

* Number of vehicles per lane.

Future 2018 with-Project Conditions, Alternative B3

Study Intersection	Analysis	Existing 2012				Future 2018 without Project				Future 2018 with Project (Alternative B3)				Future 2018 with Project (Alternative B3) with TDM			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
US-101 eastbound off-ramp and Los Angeles Street	Average delay	4.4	A	0.6	A	4.8	A	1.4	A	11.2	B	1.7	A	9.5	A	1.7	A
	Eastbound approach delay	13.9	B	9.1	A	15.9	C	10.0	B	29.2	D	10.7	B	25.5	D	10.6	B
	Queue 95th %tile (vehicle)*	1.7		0.2		2.5		0.6		7.3		1.1		6.2		1.0	

* Number of vehicles per lane.

2-3 The City of Los Angeles Community Plan for the Central City area documents general plan projections to 2010 (page 11-3 of the Central City Community Plan). The 2018 buildout year provided in the traffic analysis is beyond the horizon year of the Central City Community Plan. Therefore, no additional analysis is needed.

2-4 The Commute Options and Parking Office of the City's Department of Personnel conduct annual employee transportation surveys, as required by the South Coast Air Quality Management District. These surveys can be used to monitor the success of TDM programs and resultant effects on the freeway system.

2-5 The City has not established a TIMP for the Civic Center area. Furthermore, due to the complexity of TIMPs, it is not feasible to establish a TIMP within the time frame for this project.

Regional and Local Agencies

Letter 3 South Coast Air Quality Management District

Letter 3

South Coast
Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4178
(909) 396-2000 • www.aqmd.gov

E-Mailed: October 18, 2013
jimdoty@lacity.org

October 18, 2013

Mr. Jim Doty
City of Los Angeles
Bureau of Engineering
1149 S. Broadway, Suite 600
Los Angeles, CA 90015

Review of the Draft Environmental Impact Report (Draft EIR) for the Proposed Los Angeles Street Civic Building Project

The South Coast Air Quality Management District (SCAQMD) staff appreciates the opportunity to comment on the above-mentioned document. The following comments are meant as guidance for the lead agency and should be incorporated into the final environmental impact report (Final EIR) as appropriate.

The SCAQMD staff is concerned about the significant regional operational air quality impacts from the proposed project. Specifically, the lead agency determined that the project will exceed the SCAQMD's CEQA regional significance thresholds for NOx and VOC emissions during operation of some of the alternatives of the proposed project. Therefore, the SCAQMD staff recommends that pursuant to Section 15126.4 of the CEQA Guidelines the lead agency require the following mitigation measures in addition to the measures identified in the Draft EIR.

Additional Operational Mitigation Measures - Energy Efficiency

a) Maximize use of solar energy including solar panels; installing the maximum possible number of solar energy arrays on the building roofs and/or on the project site to generate solar energy for the facility.
b) Use passive heating, natural cooling, solar hot water systems, and reduced pavement.
c) Require all lighting fixtures, including signage, to be energy efficient. Where feasible, use solar powered lighting and limit the hours of operation of outdoor lighting.
d) Utilize only Energy Star heating, cooling, and general appliances.
e) Install light colored "cool" roofs and cool pavements.

Additional Operational Mitigation Measures – Transportation

f) Provide electric car charging stations for tenants. Also, provide designated areas for parking of zero emission vehicles (ZEVs) for car-sharing programs.

3-1

g) Provide incentives for employees and the public to use public transportation such as discounted transit passes and/or other incentives.
h) Create local "light vehicle" networks, such as neighborhood electric vehicle (NEV) systems.
i) Require the use of 2010 compliant diesel trucks, or alternatively fueled, delivery trucks (e.g., food, retail and vendor supply delivery trucks) at commercial/retail sites upon project build-out. If this isn't feasible, consider other measures such as incentives, phase-in schedules for clean trucks, etc.

3-1 cont'd.

Additional Operational Mitigation Measures - Other

j) Require use of water-based or low VOC cleaning products.
k) Require use of electric lawn mowers and leaf blowers.
l) Require use of electric or alternatively fueled sweepers with HEPA filters.
m) Require the use of electric or alternative fueled maintenance vehicles.

Pursuant to Public Resources Code Section 21092.5, SCAQMD staff requests that the lead agency provide the SCAQMD with written responses to all comments contained herein prior to the adoption of the Final EIR. Further, staff is available to work with the lead agency to address these issues and any other questions that may arise. Please contact Dan Garcia, Air Quality Specialist CEQA Section, at (909) 396-3304, if you have any questions regarding the enclosed comments.

3-2

Sincerely,

Ian V. MacMillan

Ian MacMillan
Program Supervisor, CEQA Inter-Governmental Review
Planning, Rule Development & Area Sources

IM:DG

LAC130906-05
Control Number

Letter 3 South Coast Air Quality Management District

Responses

3-1 The City has constructed and operated buildings that are certified as LEED gold and platinum, which is the highest LEED certification. The proposed project would be, at a minimum, LEED silver certified. To achieve certification, all suggested measures in Comment 3-1 will be considered for implementation.

3-2 The South Coast Air Quality Management District requests written responses to the comments contained in this letter. Pursuant to Section 15088 of the State CEQA Guidelines, written responses to this agency's comments will be provided prior to certification of the Final EIR.

Letter 4 County of Los Angeles Fire Department

Letter 4

COUNTY OF LOS ANGELES

FIRE DEPARTMENT

1320 NORTH EASTERN AVENUE
LOS ANGELES, CALIFORNIA 90063-3294

DARYL L. OSBY
FIRE CHIEF
FORESTER & FIRE WARDEN

October 3, 2013

Jim Doty, Environmental Affairs Officer
Bureau of Engineering
City of Los Angeles
1149 S. Broadway, Suite 600
Los Angeles, CA 90015

Dear Mr. Doty:

DRAFT ENVIRONMENTAL IMPACT REPORT, "LOS ANGELES STREET CIVIC BUILDING PROJECT," REACTIVATE THE EXISTING PARKER CENTER PROPERTY TO PROVIDE OFFICE SPACE FOR CITY OF LOS ANGELES EMPLOYEES, 150 NORTH LOS ANGELES STREET, LOS ANGELES (FFER #201300150)

The Draft Environmental Impact Report has been reviewed by the Planning Division, Land Development Unit, Forestry Division, and Health Hazardous Materials Division of the County of Los Angeles Fire Department. The following are their comments:

PLANNING DIVISION: 4-1

1. The subject is entirely within the City of Los Angeles, which is not a part of the emergency response area of the Los Angeles County Fire Department (also known as the Consolidated Fire Protection District of Los Angeles County). Therefore, this project does not appear to have any impact on the emergency responsibilities of this Department.

LAND DEVELOPMENT UNIT:

1. This project is located entirely in the City of Los Angeles. Therefore, the City of Los Angeles Fire Department has jurisdiction concerning this project and will be setting conditions. This project is located in close proximity to the jurisdictional area of the Los Angeles County Fire Department. However, this project is unlikely to have an impact that necessitates a comment concerning general requirements from the Land Development Unit of the Los Angeles County Fire Department. 4-2

2. The County of Los Angeles Fire Department, Land Development Unit, appreciates the opportunity to comment on this project.

3. Should any questions arise regarding subdivision, water systems, or access, please contact the County of Los Angeles Fire Department, Land Development Unit Inspector, Claudia Soiza, at (323) 890-4243. **4-3**

FORESTRY DIVISION – OTHER ENVIRONMENTAL CONCERNS:

1. The statutory responsibilities of the County of Los Angeles Fire Department, Forestry Division include erosion control, watershed management, rare and endangered species, vegetation, fuel modification for Very High Fire Hazard Severity Zones, archeological and cultural resources, and the County Oak Tree Ordinance. **4-4**

2. The areas germane to the statutory responsibilities of the County of Los Angeles Fire Department, Forestry Division have been addressed. **4-5**

HEALTH HAZARDOUS MATERIALS DIVISION:

1. The Health Hazardous Materials Division has no objection to the proposed project. **4-6**

If you have any additional questions, please contact this office at (323) 890-4330.

Very truly yours,

Frank Vidales

FRANK VIDALES, CHIEF, FORESTRY DIVISION
PREVENTION SERVICES BUREAU

FV:ij

Letter 4 County of Los Angeles Fire Department

Responses

4-1 The comment that the project site is located entirely in the city of Los Angeles, which is not a part of the emergency response area of the County of Los Angeles Fire Department (also known as the Consolidated Fire Protection District of Los Angeles County) is acknowledged. Page 6-3 of the Draft EIR states that the Los Angeles Fire Department (LAFD) serves the project site.

4-2 Page 6-3 of the Draft EIR states that the LAFD serves the project site. The comment that this project is unlikely to result in an impact that necessitates a comment concerning general requirements from the Land Development Unit of the County of Los Angeles Fire Department is acknowledged.

4-3 The comment that the County of Los Angeles Fire Department's Land Development Unit appreciates the opportunity to comment on the proposed project is acknowledged.

4-4 The comment describing the statutory responsibilities of the County of Los Angeles Fire Department's Forestry Division is acknowledged.

4-5 The comment that the Draft EIR addresses areas germane to the statutory responsibilities of the County of Los Angeles Fire Department's Forestry Division is acknowledged.

4-6 The comment that the Health Hazardous Materials Division has no objections to the proposed project is acknowledged.

Organizations

Letter 5 Los Angeles Conservancy

LOS ANGELES
CONSERVANCY

523 West Sixth Street, Suite 826
Los Angeles, CA 90014

213 623 2489 PHONE
213 623 3909 FAX
213 430 4215 EVENT HOTLINE
laconservancy.org

Submitted electronically
Jim Doty, Environmental Affairs Officer
City of Los Angeles
Bureau of Engineering
1149 S. Broadway, Suite 600
Los Angeles, CA 90012
Email: jim.doty@lacity.org

October 21, 2013

RE: Draft Environmental Impact Report (DEIR), Los Angeles Street Civic Building Project

Dear Mr. Doty:

On behalf of the Los Angeles Conservancy, thank you for the opportunity to comment on the Draft Environmental Impact Report (DEIR) for the Los Angeles Street Civic Building Project, which impacts the historic Parker Center building (originally known as the Police Facilities Building). The Conservancy urges the City of Los Angeles and the Bureau of Engineering to pursue an environmentally sensitive project that can minimize the greatest impacts to cultural and historical resources while still meeting many of the project objectives.

Without a preferred project named or selected at this time, three project alternatives are identified within the DEIR and are under consideration. All three will result in significant and unavoidable direct impacts on the Parker Center building, albeit to varying degrees. Only Alternatives B1 (rehabilitation) and B2 (rehabilitation, partial demolition and new addition) have the greatest potential for complying with the Secretary of the Interior's Standards for Rehabilitation (Standards), while maintaining Parker Center as a eligible historic resource. Alternative B3 calls for the complete demolition and redevelopment of the Parker Center site. Alternative B1 is identified within the DEIR as the environmentally superior alternative.

5-1

I. Parker Center is a significant historic and cultural resource.

The 1955 Parker Center has been previously identified as a historical resource, formally determined eligible for the National Register of Historic Places as a contributor to the Los Angeles Civic Center in 2010. At that time it was listed in the California Register of Historical Resources. It is significant for its design by Welton Becket and Associates and for the controversial Chief William H. Parker, who served as Chief of Police at the Los Angeles Police Department from 1950 to 1966.

5-2

The eight-story, International Style building with integrated art and landscaping components was a significant, postwar addition to the Los Angeles Civic Center. It features contrasting, rectilinear volumes, most apparent through its rectangular tower of administrative offices set atop a one-story base housing an administrative wing to the south and an auditorium to the north. The two-story jail portion of the

building also extends north from the tower. Horizontal bands of windows alternating with mosaic tiles dominate the north and south elevations of the tower, which features windowless west (main) and east elevations clad in ceramic veneer panels. Twelve delicate pilotis (isolated columns) clad in blue mosaic tile support the mass of the tower extending over the main entrance plaza at Los Angeles Street. The building's original design remains highly intact.

Parker Center includes two integrated, site-specific art pieces as part of the original design: the bronze sculpture "The Family Group" by artist Bernard J. Rosenthal on the building's exterior and the expansive mosaic "Theme Mural of Los Angeles" by artist Joseph Young on the interior; both are original to the building. The "Theme Mural of Los Angeles" depicts a stylized composition of images representing the Los Angeles cityscape, including such iconic landmarks as Los Angeles City Hall, Griffith Observatory, and Grauman's Chinese Theatre. 5-2 cont'd.

Parker Center was included in the Los Angeles Conservancy Modern Committee's 2003 tour "Built by Becket," which showcased notable designs of Welton Becket throughout Los Angeles County.

II. The Final EIR should evaluate a preservation alternative that avoids major impacts on cultural resources while achieving most of the project objectives.

The DEIR does not identify a preferred project, but rather three project alternatives. Alternative B1 would rehabilitate the current Parker Center building, converting it into offices for 875 City employees and include 319, 048 total square footage. Alternative B2 would involve partial demolition, rehabilitation and an addition, housing 1,775 City employees and include 522,260 total square footage. Alternative B3 demolishes the Parker Center building and constructs a new facility, housing 2,945 employees and includes 588,240 total square footage (and additional 22,970 for ancillary uses). 5-3

The Conservancy believes Alternatives B1 and B2 have the greatest potential of meeting the project objectives while also still maintaining the eligibility of the Parker Center as a historical resource. Each would receive a similar rehabilitation treatment for the historic building, while Alternative B2 would result in the loss of the jail section and involve the construction of an adjacent eleven-story tower and corridor connector.

In terms of establishing a need for the project, the DEIR states that 3,865 employees are currently off-site and a project objective is to locate City staff closer to City Hall. Yet there is no assessment, technical report, or space needs study provided within the DEIR that includes a departmental breakdown or cost-benefit analysis that substantiates this project objective. For instance, is 185-192 square feet per employee the desired outcome or consistent with all relocated City departments for the proposed project? Does this estimate reflect current industry standards or the growing trend for shared work environments with reduced square footage per employee? Are there better and more efficient ways to house employees that could generate greater space efficiencies? Given that none of the alternatives provided can fully meet the goal (B1 with 875; B2 with 1,775; B3 with 2,945), it would be helpful to fully understand and determine what level of staff thresholds are absolutely required as part of the scope of this project. The Conservancy requests this type of detailed analysis be provided prior to the selection of a preferred project. 5-4

Alternatives B2 and B3 both involve new construction at the site, with independent tower structures to be built. Through Alternative B2 there will be an eleven-story, 262,100 square foot tower on the site of the current jail structure. Though structurally independent, this will be connected to the current Parker Center building through a twenty-five-foot wide corridor at floors one through seven. The Alternative B3 calls for one or two buildings up to twenty-seven stories with a maximum height of 450 feet, with 753,730 square feet overall. Again, there is no needs analysis provided within the DEIR that substantiates what

amount of square footage or type of office facilities are required, by departmental breakdown or otherwise. This also raises the question of why Alternative B2's tower structure is capped at 200 feet and eleven stories. It stands to reason that additional height and density can be achieved through this preservation alternative with modification to provide a greater amount of overall square footage, thus housing even more of the desired employees at a central location. This modification can further enhance Alternative B2 with respect to meeting project objectives. The Final EIR should address these concerns and further refine Alternative B2 or provide as a modified, stand-alone alternative.

5-4 cont'd.

III. Rehabilitating the Parker Center building is acknowledged as the environmentally superior alternative and can be achieved while meeting the project's sustainability goals and green building objectives

5-5

The project seeks to meet the City's Green Building Code. Reuse of the existing Parker Center building is an inherently green and sustainable practice. According to the USGBC, LEED-certified existing buildings now surpass LEED-certified new construction, a trend that is expected to grow.[1] When a building is demolished and replaced, research demonstrates that it can take more than 30 years before any cumulative energy savings is achieved through even the most energy-efficient replacement building.[2]

5-6

The adverse environmental impact of demolishing the Parker Center building and constructing up to 753,730 square feet of space is tremendous, requiring enormous expenditures of energy, materials, and non-renewable resources. Even with recycling, the project will generate significant amounts of demolition and construction solid waste. The Conservancy disagrees with the DEIR's finding of "less than significant" and statements that Alternative B3 will "not result in a wasteful use of energy."[3] By contrast and through Alternatives B1 and/or B2, the Parker Center building can be retrofitted to achieve greater energy efficiency, with adaptive reuse saving energy and resources that otherwise would end up in the landfill. This has been a successful approach for other existing building types similar to the Parker Center, in Los Angeles and nationwide.

5-7

Any perceived deficiencies with the Parker Center building can be improved without full demolition and replacement. The Parker Center building could attain better performance through green operations and maintenance. Upgrades can be made to modernize the electrical and plumbing systems and sustainability features such as low-flow water fixtures, tankless water heaters, and energy-efficient lighting can be installed. The California Historic Building Code is also available to provide code flexibility for historic buildings to achieve performance standards equivalent to current building codes while still retaining their historic integrity.

IV. Feasible alternatives to demolition are provided within the DEIR

5-8

A key policy under CEQA is the lead agency's duty to "take all action necessary to provide the people of this state with... historic environmental qualities...and preserve for future generations...examples of major periods of California history."[4] To this end, CEQA "requires public agencies to deny approval of a project with significant adverse effects when feasible alternatives or feasible mitigation measures can substantially lessen such effects."[5] The lead agency cannot merely adopt a statement of overriding

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[1] "Huge Growth for LEED retrofits," www.greenbuildingpro.com, December 8, 2011

[2] National Trust for Historic Preservation, Preservation Green Lab, *The Greenest Building: Quantifying the Environmental Value of Building Reuse*.

[3] Los Angeles Street Civic Building Project, Chapter 1, Executive Summary, Page 1-34

[4] Public Resources Code §21001 (b), (c).

[5] *Sierra Club v. Gilroy City Council* (1990) 222 Cal. App.3d 30, 41; *also see* PRC §§ 21002, 21002.1.

considerations and approve a project with significant impacts; it must first adopt feasible alternatives and mitigation measures.

It is undisputed that demolition and replacement of the Parker Center building would cause a substantial adverse and unavoidable impact to a significant historical resource. Therefore, if feasible alternatives to demolition of the Parker Center building exist that would generally meet the basic objectives of the project, the City of Los Angeles and Bureau of Engineering should avoid a project resulting in a significant impact.

5-8 cont'd.

As a contributor to the National Register-eligible Civic Center Historic District, the potential loss of the Parker Center Building is significant. The Final EIR should address the cumulative impacts of the proposed project and the loss of a significant mid-century modern resource within the historic district boundaries.

5-9

V. Alternatives B1 and B2 substantially lessen impacts on historic resources, while achieving most project objectives

Despite Alternative B1 being deemed the environmentally superior alternative, the DEIR states Alternative B3 would "best satisfy the project objectives because the greatest number of City employees could be relocated under this alternative and a new building would provide better fire-life safety and seismic safety features and comply with the City Green Building Code."[6] There are a number of errors in this statement and conclusion. As previously stated, there is no analysis provided within the DEIR that establishes a baseline or space needs assessment for City employees. A larger building may not be warranted or deemed efficient, as square footage alone cannot accurately reflect overall efficiencies. Also, as addressed earlier in our previous comments and as demonstrated through numerous studies, the reuse and retrofit of an existing building such as the Parker Center building has a greater ability to meet sustainability and green building policies over demolition and new construction

5-10

In terms of fire-life safety and seismic assertions made within the DEIR, no detailed analysis or technical studies are provided regarding these aspects. In our review of the limited materials within the DEIR and by talking with experts in the field of engineering and historic buildings, the proposed seismic strengthening in Alternatives B1 and B2 would meet all current fire-life safety and seismic standards for existing buildings. The Conservancy understands there will be minimal intervention required (through concrete shear walls and jackets) that will affect some historic fabric, such as the mosaic-clad columns at the front façade of the building. Once employed, these treatments will strengthen lateral stability. In contrast to statements made in the DEIR, these types of treatment should not be inferred or concluded to be as anything less than or inferior to the proposed new construction.

5-11

VI. Conclusion

We believe that creative reuse options exist for the historic Parker Center building, as an independent rehabilitation through Alternative B1 or as part of rehabilitation with complimentary new construction through Alternative B2. Both provide a wide range of options and flexibility while maintaining the eligibility of an existing building and historic resource, while meeting many of the project objectives. The preferred project should be environmentally sensitive and one that can minimize the greatest environmental impacts.

5-12

[6] Los Angeles Street Civic Building Project, Chapter 1, Executive Summary, Page 1-35

Thank you for the opportunity to comment on the DEIR for the Los Angeles Street Civic Building Project. Please feel free to contact me at (213) 430-4203 or afine@laconservancy.org should you have any questions.

About the Conservancy
The Los Angeles Conservancy is the largest local historic preservation organization in the United States, established in 1978 to preserve and revitalize the significant architectural and cultural heritage of Los Angeles through advocacy and education. The Conservancy's all-volunteer Modern Committee has been at the forefront of preserving mid-century architecture since its inception in 1984.

5-12 cont'd.

Sincerely,

Adrian Scott Fine

Adrian Scott Fine
Director of Advocacy

cc: City Councilmember Jose Huizar, Council District 14

Letter 5 Los Angeles Conservancy

Responses

5-1 The comment is a statement of appreciation for the opportunity to comment on the Draft EIR. Further, the comment summarizes information contained in the Draft EIR and urges the City to pursue an environmentally sensitive alternative. The comment does not specifically comment on the environmental analysis included in the Draft EIR; therefore, no further response is required.

5-2 The comment states the historical significance of the Parker Center building. The comment is not a specific comment on the Draft EIR and does not require a further response.

5-3 The comment requests that the Final EIR include an alternative that avoids "major impacts on cultural resources while achieving most of the project objectives." The Draft EIR includes Alternative B1, Rehabilitation Alternative, which would avoid most of the potential impacts on historical resources while achieving many of the project objectives. Alternative B1 is the alternative that would preserve the existing building to the greatest extent feasible. The commenter does not suggest an alternative that would preserve the existing building to a greater extent than Alternative B1.

Although significant and unavoidable impacts would occur with implementation of Alternative B1, it is identified as the environmentally superior alternative (page 5-5 of the Draft EIR). Nonetheless, the Draft EIR acknowledges that Alternative B1 would not provide the optimal amount of floor area with respect to relocating City services. In addition, the comment summarizes Draft EIR conclusions regarding the three build alternatives. The commenter's support of Alternatives B1 and B2 is acknowledged.

5-4 An assessment of the City's space needs was conducted as part of the City of Los Angeles 2009 Strategic Real Estate Plan (Plan). That Plan concluded that a new office building for the consolidation of City offices was needed in order to improve communication, productivity, and synergy. As discussed therein, a 500,000- to 1,000,000-square-foot building[1] on the Parker Center site would accommodate the long-term future needs of the City. A 500,000-square-foot building could include the Personnel Department, Department of General Services, Office of Public Safety, ITA Channel 35, LAPD Internal Affairs, and City Attorney programs. A 1,000,000-square-foot building would also include all of the bureaus in the Department of Public Works. According to the Plan, the advantages of constructing a new Civic Center office building include the following:

- Maximizes operating efficiencies through consolidation;
- Permits optimization of space standards and departmental agencies;
- Includes the planning of new space, thus improving productivity;
- Reduces in-house and consultant asset management expenses;
- Supports the creation of jobs through new construction;
- Is the closest location available within the City Hall/Civic Center complex; and
- Can provide a new image and focal point for the Civic Center, using creative design.

[1] Gross square feet.

As shown in Table 3-1 in the Draft EIR, the Alternative B3 has the most efficient use of space. Based on the ratio of net to gross square feet, it appears that the alternative with the most efficient use of space is Alternative B3. The ratio of gross to net square footage for each alternative is the following:

- Alternative B1 = 174,331 net square feet / 319,048 gross square feet = 55%
- Alternative B2 = 354,499 net square feet / 522,255 gross square feet = 68%
- Alternative B3 = 588,240 net square feet / 753,730 gross square feet = 78%

With respect to the 1,000,000-square-foot building identified in the Plan, the proposed project contemplated the development of this size office building and mentioned it in the Notice of Preparation, which was circulated for a 30-day public review period on May 8, 2012. The Notice of Preparation (Appendix A to the Draft EIR) described Alternative B3 as a new 750,000 to 1,000,000-square-foot building. However, after consideration of the space constraints and in an effort to reduce the potentially significant impact on traffic, the City reduced the size of this alternative to 750,000 square feet.

5-5 The comment is supporting the Draft EIR finding that Alternative B1 is the environmentally superior alternative. As stated on page 3-1 of the Draft EIR, one of the project objectives is to support the City's sustainability initiatives by rehabilitating or constructing a building that meets the City's Green Building Code. Additionally, demolition materials would be recycled under the proposed project. See Response to 3-1 for discussion regarding LEED certification.

Regarding energy efficiency, the energy loss factor (i.e., amount of energy lost in transmission) on the existing building is high. Alternative B1 would result in a loss of nearly 43% of its gross to net area, and Alternative B3 would yield an 18 percent loss of its gross to net area. The Parker Center building was designed and constructed with to support a different function of special use spaces with shorter span column grids. One of the primary ways to reduce a building's energy use during design is to reduce the amount of air-conditioned area. When looking at building planning metrics in this example, the energy loss factor plays a strategic role because the higher the loss percentage, the greater the overall gross floor area will be needed to satisfy the building's program requirements.

Using the Commercial Building Energy Consumption Survey's (CBECS) Energy Use Intensity (EUI) value for buildings greater than 100,000 square feet, we can estimate that the existing Parker Center building would consume roughly 105 kilowatt hours (kWh) of energy per square foot of gross floor area. However, Alternative B1 would only provide approximately one-third of the space required to meet the current City's requirements for its location. Three smaller buildings (to achieve 750,000 square feet on multiple sites) would use more energy than a collocation strategy when accounting for the increased efficiency of larger scale building infrastructure. With that in mind, the existing building plus two more of the same size would potentially use a combined 120 million kWhs each year while a single facility of roughly 750,000 square feet would only expect to draw 78 million kWhs. This takes the energy loss factor of the existing building into account compared to the Alternative B3. Note that Alternative B2 would still demand more annual kwhs than Alternative B3.

5-6 As discussed on pages 4.9-9 and 4.9-10 of the Draft EIR, construction of the build alternatives would generate waste from demolition. The demolition waste would include concrete, asphalt, vegetation, soil, rebar, and other similar materials. Because of the less extensive construction activities proposed under Alternative B1, the amount of construction and demolition waste would be considerably less than the amount generated under Alternatives B2 or B3, respectively. Even with the most extensive construction activities (i.e., Alternative B3), the amount of construction and demolition waste could be accommodated by one or more of the nine solid waste facilities in Los Angeles County that are permitted to accept more than 1,000 tons of solid waste per day. Furthermore, given that City-certified construction and demolition waste processors recycle at least 70 percent of their loads, the amount of solid waste that reaches the landfill is much smaller than the amount that initially leaves the site. Therefore, impacts related to solid waste disposal capacity would be less than significant. Additionally, according to the City of Los Angeles Construction and Demolition Waste Recycling Ordinance, all haulers of construction and demolition waste are required to obtain a permit from the Bureau of Sanitation and take their loads only to city-certified construction and demolition processing facilities. The construction contractor would comply with this and any other applicable regulations related to solid waste. Therefore, impacts related to compliance with solid waste regulations would be less than significant.

As also discussed on page 4.9-10 of the Draft EIR, during construction of the build alternatives, short-term energy consumption would result primarily from the manufacture of construction materials, the use of petroleum fuels by construction equipment, construction workers' motor vehicles traveling to and from the site, and trucks delivering materials or removing debris. Construction would occur over an approximate 18- to 24-month period. Thus, energy consumption during the construction period of the build alternatives would be finite and limited and would have a less-than-significant impact on area energy supplies.

5-7 See Response 5-5 regarding the ability of the build alternatives to comply with the City's Green Building Code, energy efficiency, and the City's sustainability objective for the proposed project.

5-8 The build alternatives analyzed in the Draft EIR include a variety of options, including rehabilitation, partial demolition, and full demolition. Environmental impacts and associated mitigation measures have been identified for each of the build alternatives throughout the Draft EIR. State CEQA Guidelines Section 15093 (a) describes the lead agency's responsibility when preparing a Statement of Overriding Consideration as follows:

> CEQA requires the decision-making agency to balance, as applicable, the economic, legal, social, technological, or other benefits of a proposed project against its unavoidable environmental risks when determining whether to approve the project. If the specific economic, legal, social, technological, or other benefits of a proposed project outweigh the unavoidable adverse environmental effects, the adverse environmental effects may be considered "acceptable."

It is the lead agency's responsibility to provide substantial evidence in the record (e.g., in the EIR) to support its action (State CEQA Guidelines Section 15093(b)). CEQA does not require that a public agency deny approval of a project with significant effects on the environment. Furthermore, Public Resources Code Section 21002 states that "in the event specific economic, social, or other conditions make infeasible such project alternatives or such mitigation measures, individual project may be approved in spite of one or more significant effects thereof." Public Resources Code Section 21002.1(c) states that "if economic, social, or other conditions make it infeasible to mitigate one or more significant effects on the environment of the project, the project may nonetheless be carried out or approved at the discretion of a public agency if the project is otherwise permissible under applicable laws and regulations."

5-9 The Draft EIR addressed the cumulative impacts of the proposed project within a study area, including but not limited to, the Los Angeles Civic Center Historic District. There are 18 contributors to the Los Angeles Civic Center Historic District; 15 of these contributors, including the Parker Center building, are mid-century modern historical resources. The demolition of the existing Parker Center building under Alternative B3 would be a significant and unavoidable impact on Parker Center and the Los Angeles Civic Center Historic District, both of which are historical resources under CEQA. However, because no known related projects are proposing demolition of Los Angeles Civic Center Historic District contributors in addition to the proposed demotion of the Parker Center building under Alternative B3, cumulatively considerable impacts under CEQA on the Los Angeles Civic Center Historic District are not forecast.

5-10 See Responses 5-4 and 5-5.

5-11 Alternatives B1 and B2 would be constructed in compliance with the California Building Code and the Los Angeles Building Code, including fire/life safety features. Furthermore, the California Historical Building Code (CHBC) would be applied to the implementation of Alternatives B1 and B2. Section 8-101.2 of the CHBC states that "the CHBC requires enforcing agencies to accept solutions that are reasonably equivalent to the regular code (as defined in Chapter 8-2) when dealing with qualified historical buildings or properties." The determination of "reasonably equivalent to the regular code" may be interpreted as somewhat less than full and complete compliance. This is not implying that renovated buildings are unsafe but that entirely new construction may afford some level of additional safety, in full compliance with code requirements.

5-12 The comment is stating an opinion of support for Alternatives B1 and B2. The comment is hereby acknowledged. The Draft EIR identified environmental impacts and associated mitigation measures for a broad range of alternatives. A comparison of alternatives and their impacts under each environmental resource area is presented in Table 5-1 of the Draft EIR (see pages 5-3 through 5-5 of the Draft EIR).

Individuals

Letter 6 Ms. Joyce Dillard

Letter 6

From: Joyce Dillard <dillardjoyce@yahoo.com>
Date: October 21, 2013 at 3:51:18 PM PDT
To: Mahmood Karimzadeh <Mahmood.Karimzadeh@lacity.org>
Subject: Fw: Comments to BOE DEIR SCH 2012051030 Los Angeles Street Civic Building Project aka Old Parker Center due 10.21.2013
Reply-To: Joyce Dillard <dillardjoyce@yahoo.com>

oldparkercentereir@lacity.org is not a valid address.

Joyce Dillard

On Monday, October 21, 2013 3:46 PM, Joyce Dillard <dillardjoyce@yahoo.com> wrote:

This is a Mid-Century Modern style building and should be considered in that historical context. **6-1**

Not in CEQA are Economic Impacts on tourism, as City Hall attracts those who appreciate architectural achievements. The Old Parker Center is part of several tourist areas including the Civic Center , Union Station, Chinatown and Little Tokyo and Olvera Street . **6-2**

Mid-Century Modernism is part of the Los Angele urbanism. This building is in the Los Angeles CivicCenter Historic District. **6-3**

Alternative B-1-Rehabilitation is our preferred approach. We do not agree with an inter-building tunnel that would connect City Hall East to the rehabilitated Civic Building . Public safety issues need to be considered. **6-4**

It is not clear what city services will be relocated, therefore public accessibility is not addressed properly. **6-5**

Alternative B-1 provides a footprint reflective of the surrounding community. **6-6**

This project is in a Methane Buffer Zone. Permanent mitigation and monitoring programs need to be in place along with qualified personnel to test and review. **6-7**

Fire Response Times should be clear. Evacuation plans and Air Quality issues need to be addressed. **6-8**

Total Daily Maximum Loads TMDLs need to be addressed as pollutant loads need to be identified and mitigated. **6-9**

You have not addressed watershed impacts in the detail needed for mitigation. **6-10**

Joyce Dillard
P.O. Box 31377
Los Angeles, CA 90031

Letter 6 Ms. Joyce Dillard (Individual)

Responses

6-1 As discussed on pages 4.3-13 through 4.3-23 of the Draft EIR, the Parker Center building is considered to be a historical resource under CEQA. The historical resource impacts of the build alternatives are presented throughout Section 4.3 of the Draft EIR.

6-2 Section 4.1.2 of the Draft EIR states that "the project area is within the Civic Center and abuts the Little Tokyo neighborhood." This section discusses the surrounding area, which includes tourist attractions, such as Little Tokyo the Music Center, and several other destinations. The commenter is correct that CEQA does not require an analysis of the economic impacts of the proposed project on tourism. Therefore, no further response is required.

6-3 See Responses 5-9 and 6-1.

6-4 The comment is stating a preference for Alternative B1. Design of the alternatives, including the proposed tunnel, would comply with City public safety guidelines, regulations, and policies. Additionally, as stated in the Draft EIR, the project alternatives would provide required emergency access in accordance with City requirements. Therefore, the proposed project would not result in inadequate emergency access. Chapter 3.0, Project Description (page 3-6), of the Draft EIR indicates that fire/life safety improvements would include new fire sprinklers and fire alarm systems under Alternative B1.

6-5 The Draft EIR discusses proposed vehicular access to the project site under each of the build alternatives as well as current access to the project site. Bicycle access is also discussed. As stated in Response 6-4, the project alternatives would provide required emergency access in accordance with City requirements. Therefore, the project would not result in inadequate emergency access.

With respect to the relocation of city services, see Response 5-4.

6-6 The Draft EIR includes figures on pages 3-7, 3-9, and 3-11 depicting each of the build alternatives. These figures show surrounding uses, including the Japanese American National Museum and the Museum of Contemporary Art. A dotted line is used in each of the figures to distinguish the project site from the surrounding uses.

6-7 As stated on page 4.5-6 of the Draft EIR, no methane was detected during subsurface field exploration on the project site. However, the entire Parker Center site is located within a methane buffer zone. Construction of the build alternatives would comply with all applicable local regulations, including those related to methane, as specified in the Division 71 of the City of Los Angeles Building Code, to avoid any impacts associated with methane seepage (see page 4.5-10 of the Draft EIR).

6-8 The Draft EIR (page 6-3) states that, pursuant to communications with the LAFD, fire protection of the project site is adequate, and no additional fire protection equipment or personnel would be required with project implementation. The proposed project would not require the expansion of existing fire protection facilities or the development of new facilities. As such, the project would not result in substantial

impacts associated with the provision of new or physically altered facilities. Appendix E of the Draft EIR provides LAFD responses to questions regarding the proposed project. Section 6.1.4.1 (page 6-2) of the Draft EIR discusses impacts related to police services. Section 4.2 of the Draft EIR discusses air quality impacts anticipated to occur under the build alternatives.

6-9 As discussed on page 6-4 of the Draft EIR, the proposed project would result in less-than-significant impacts on water quality during construction. Construction of the proposed project would be required to meet the National Pollutant Discharge Elimination System (NPDES) requirements for stormwater quality. The contractor would also be required to implement best management practices (BMPs) for erosion control. In addition, the contractor would prepare a Stormwater Pollution Prevention Plan (SWPPP) prior to any construction activity. Implementation of the BMPs in the project's SWPPP and compliance with the City's discharge requirements would ensure that project construction would not violate any water quality standards or discharge requirements or otherwise substantially degrade water quality.

With respect to operation of the proposed project, a Standard Urban Stormwater Mitigation Plan (SUSMP) would be implemented to ensure that potential impacts associated with water quality would be less than significant. Furthermore, the proposed project would not include industrial discharge to any public water system. With appropriate project design and compliance with applicable federal, state, and local regulations, code requirements, and permit provisions, a less-than-significant impact would occur

6-10 Hydrology and water quality impacts would be less than significant under the build alternatives, as discussed in Section 6.1.6 (pages 6-3 and 6-4) of the Draft EIR. As discussed therein, no mitigation measures are required.

Meeting Comments

Letter 7 Public Meeting Written Comments

Letter 7

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CITY ENGINEER

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http://eng.lacity.org

LA Street Civic Building Project -- Draft EIR Meeting

Tuesday, October 15, 2013

Comment Sheet

Please Print

Name Chris Aihara

Address

Organization Little Tokyo Community Council

Email Aihara.chris@gmail

Please provide us with your comments

Little Tokyo is concerned about connectivity to the rest of the community, as well as ability to traverse easily to other public buildings. Not to be blocked off. We'd like to see activity on the street level that serves community uses

7-1

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LA Street Civic Building Project – Draft EIR Meeting
Tuesday, October 15, 2013
Comment Sheet

Please Print

Name James Okazaki

Address

Organization Little Tokyo Community Council

Email

Please provide us with your comments

1) Which option has the most improvements on the street-side? 7-2

2) Does the City have \$ for any of the options? 7-3

3) Which option has the most set-back? 7-4

4) Which option has the most public parking? to the bldg. area 7-5

5) Can there be access from all 4 streets, including First St? 7-6

Recyclable and made from recycled waste.

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LA Street Civic Building Project – Draft EIR Meeting
Tuesday, October 15, 2013
Comment Sheet

Please Print

Name CRAIG ISHII

Address 244 S. SAN PEDRO ST., SUITE 306, 90012

Organization LITTLE TOKYO COMMUNITY COUNCIL

Email CRAIG @ V-IZUNA-LA.ORG

Please provide us with your comments

LTCC IS A COMMUNITY-BASED ORGANIZATION COMPRISED OF OVER 90 NONPROFITS BUSINESSES & STAKEHOLDERS ASSOCIATED W/ LITTLE TOKYO. OUR MISSION IS TO ADVOCATE FOR A VIBRANT FUTURE FOR THIS COMMUNITY.

WE ENCOURAGE THE PARKING CENTER PROJECT TO MONITOR THE DEVELOPMENT PLANS THE LITTLE TOKYO COMMUNITY IS ACTIVELY TOGETHER IN OUR "SUSTAINABLE LITTLE TOKYO" PROJECT. THIS PROJECT WILL DEVELOP A COMMUNITY-BASED, ENVIRONMENTALLY SUSTAINABLE VISION FOR 3 PARCELS: 1) 1ST ST. NORTH NXT. TO MOCA/JANM, 2) MANGROVE, NEXT TO NISHI AND 3) METRO STATION SITE (FORMERLY SENIOR FISH BLDG).

7-7

LTCC Info <info@littletokyola.org> October 14, 2013 10:40 PM
undisclosed-recipients:;
craig.ishii@gmail.com
Reminder about Parker Center EIR Hearing

TO: LTCC Members & Associates
FR: Evelyn Yoshimura & Kristin Fukushim, PCPC Co-chairs (Planning & Cultural Preservation Committee)
RE: Public hearing on future plans for Parker Center block

The City will be holding a Public Hearing to get community input on how to develop th multi-storied City office building planned for the "Parker Center" block bounded by Also (San Pedro), First, Los Angeles and Temple streets, formerly part of Little Tokyo.

The hearing is: ***Tuesday, Oct. 15, from 6 pm at the LT Public Library*** at Los Angeles St. just south of 2nd St.

In the recent past, Little Tokyo stakeholders have brought up various points for the City to consider including:

-The entire block was taken from Little Tokyo in the 1960s destroying many family-owned & community-serving businesses, 700-1,000 units of affrodable housing, and community facilities such as temples and others. The City plans to use upper floors of the building for City offices. The bottom floor could accomodate retail businesses. Therefore:

-Retail planned for the ground floor should reflect businesses that blend with and complement and create a flow with Little Tokyo, specially to Union Center for the Arts and to drive people to businesses on Historic First Street and complement whatever is built on First Street North,
-Design of the building should not "turn it's back" on Little Tokyo, but enhance flow towards it,
-Public art should be funded that reflects the historic connection of the block to Little Tokyo. 7-8

Other concerns and input can be shared at the Public Hearing described above.

Hope to see you all there!

--
Junko Goda
Secretary, Little Tokyo Community Council [www.LittleTokyoLA.org]
Send calendar and list serv distribution requests to INFO@LittleTokyoLA.org
For removal from this list, please reply and request to INFO@LittleTokyoLA.org
For inquiries email SECRETARY@LittleTokyoLA.org

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Letter 7 Public Meeting Written Comments

Responses

Chris Aihara, Little Tokyo Community Council

7-1 Section 4.7 (Land Use) of the Draft EIR discusses connectivity to surrounding neighborhoods and the extent to which existing neighborhoods, communities, or land uses would be disrupted, divided, or isolated. It also discusses the duration of disruptions that could result from implementation of the proposed project. As discussed therein, no impacts with respect to community disruption would occur under any of the build alternatives.

James Okazaki, Little Tokyo Community Council

7-2 For purposes of this response, it is assumed that "improvements on the street-side" refer to available commercial space that is accessible from exterior public areas. Each build alternative has some commercial space that is accessible to the public. However, Alternative B3 has the greatest amount of commercial space (approximately 22,970 square feet).

7-3 The process by which the City identifies project financing will occur after the environmental process is complete. As such, project financing has not yet been determined. Nonetheless, the identification of project funding is not relevant to the environmental process, and no further response is required.

7-4 The setbacks for each alternative are the following:

Build Alternative	Setback along Los Angeles Street	Setback along Judge John Aiso Street (at closest point)
B1	80 feet	20 feet
B2	80 feet	On property line
B3	60 feet	20 feet
Source: Tetra IBI, 2013.		

7-5 As shown in Table 3-12 on page 3-12 of the Draft EIR, of the three build alternatives, Alternative B3 would include the most parking spaces (approximately 1,173 spaces). Alternative B2 would include approximately 328 spaces, and Alternative B1 would include approximately 137 spaces.

7-6 Proposed access under the build alternatives is depicted in Figures 3-4 through 3-6 on pages 3-7, 3-9, and 3-11of the Draft EIR. Access would be provided from Judge John Aiso Street under Alternatives B1, B2, and B3. Vehicular access would not be provided from all four streets.

Craig Ishii, Little Tokyo Community Council

7-7 The comment describing the mission of the Little Tokyo Community Council and its "Sustainable Little Tokyo" project is acknowledged. This is not a specific comment on the Draft EIR. No further response is required.

As required by the State CEQA Guidelines, the Draft EIR identified related projects in Chapter 3.0 (Project Description). Related projects include projects that are proposed (i.e., with pending applications), recently approved, under construction, or reasonably foreseeable that could produce a cumulative impact on the local environment when considered in combination with the proposed project. Table 3-2, Related Projects List, in the Draft EIR lists the related projects that were considered in each cumulative impact analysis. The related project list consists of all potential projects located within an approximate 2-mile radius of the project site. The locations of the related projects are depicted in Figure 3-7, Related Projects Map, of the Draft EIR.

Kristen Fukushim, Little Tokyo Community Council

7-8 The comment is not a specific comment on the environmental analysis contained in the Draft EIR. The comment is acknowledged. No further response is required.

Letter 8 Public Meeting Transcript of Oral Comments

BEFORE THE CITY OF LOS ANGELES

BUREAU OF ENGINEERING

Public Hearing in the Matter of:)
)
LOS ANGELES STREET CIVIC BUILDING)
PROJECT DRAFT EIR)
_____)

TRANSCRIPT OF PROCEEDINGS

Los Angeles, California

Tuesday, October 15, 2013

Reported by:

MARCENA M. MUNGUIA,
CSR No. 10420

Job No.:
CC616ICF

BEFORE THE CITY OF LOS ANGELES

BUREAU OF ENGINEERING

Public Hearing in the Matter of:)
)
LOS ANGELES STREET CIVIC BUILDING)
PROJECT DRAFT EIR)
_____)

TRANSCRIPT OF PROCEEDINGS, taken at Little Tokyo Branch Library, 203 South Los Angeles Street, Los Angeles, California, commencing at 6:05 p.m. on Tuesday, October 15, 2013, heard before the CITY OF LOS ANGELES, BUREAU OF ENGINEERING, reported by MARCENA M. MUNGUIA, CSR No. 10420, a Certified Shorthand Reporter in and for the State of California.

APPEARANCES:

Project Presentation:	JERROLD R. PENROSE Tetra IBI Group
	PAULETTE FRANCO ICF International
	PETER FELDMAN ICF International
	MAHMOOD KARIMZADEH City of Los Angeles Bureau of Engineering

I N D E X

PUBLIC SPEAKERS:	PAGE
Craig Ishii	22
Bill Watanabe	25
Alison Delacruz	27
James Okazaki	30

E X H I B I T S

(None)

Los Angeles, California, Tuesday, October 15, 2013

6:05 p.m.

MR. PENROSE: Good evening, everyone. I'm Jerry Penrose with Tetra IBI Group. We're the consultant project engineering firm that's been commissioned by the City to develop the concept, design, and the EIR document for the Los Angeles Street Civic Center Building, and so tonight is the public meeting and we are going to start off by giving you an overview of the project, and next the representatives from the City will give a little bit of an introduction relative to their goals of the project, and then we'll have a description of the EIR process and what that's about and then have a question period. So that's pretty much our format.

We also have -- if any of you would like to speak, we have speaker cards that you can fill out and we also have comment flyers that you can take and fill out as well. And there's a sign-in sheet, so be sure, if you haven't already, to do that.

So what I'd like to do to start off is introduce Mahmood Karimzadeh, who is the principal architect with the City of Los Angeles and he'll give a brief introduction about what the goals of the project are

about.

MR. KARIMZADEH: Good evening, everybody. Again, my name is Mahmood Karimzadeh. I'm the City's principal architect here with the City from Department of Public Works. I'm glad to see you all this afternoon.

As you know, the Parker Center building has been evacuated now. The Police Department are no longer there since maybe four or five, six, seven years ago, and the last division of the Police Department who was there, the Science Investigation Division, was out last year.

So the building is completely empty right now. Maybe there is some equipment still there, but it's boarded up. So we need to do something to it.

This process is what we are going to get the answer to, what to do with the building; and what is certain is the options we have. Jerry is going to go through those options in detail, but the other things that we have definitely is what we're going to use the building for. Either the new building is built is an option we have or the retrofit of the existing building or the hybrid option.

We're going to use it for the City staff and services. One of the reasons that the City thinks that that would be very beneficial is because some of the City offices are scattered around the Civic Center and it's

not an efficient way of doing business since the staff have to go back and forth between City Hall and their offices so much. That's one.

The other reason is some of the -- maybe some of the City buildings which are on lease now, offices around the Civic Center that the City has leased in order to house their staff to provide services to the community, also are going to be housed in the new building or the existing retrofitted building.

So those are the things that we know about the options that we have and also the use of the building that we have, and we hope through this process we can answer those questions that you might have as a community, that you might have for building L.A.'s future or the desire that you may have for the design of the future. We try to answer those, to address and answer those questions that you have and those concerns that you might have and go through the process.

What we think is hopefully sometime maybe late in the spring next year of 2014 or early summer next year of 2014 that this process will be finalized through the community meetings are now and everything else, and we will learn about this process later, and through this process, it will be established by the City council at the end and we think after that the City will probably

have to think about other logistics in order to go about the preferred option for this building.

I don't know exactly the time line, but I guess that it would be probably after that -- after that day, it would be probably a five-year project in order to see what is going to be placed in there and what is going to happen there. So hopefully if everything falls in place, we are going to have something there that could be useable in five years starting from next year 2014.

So with that, I'm going to give it back to Jerry to go through the details of the options that we have.

MR. PENROSE: Thank you.

Let me start off, and hopefully all of you can see our exhibition boards okay. If not, I can scoot them closer.

To start off site wise, just to orient you, we have Los Angeles Street, Judge Aiso, Temple, and First. It bounds the overall property that the old Parker Center -- and I'll refer to it as the old Parker Center 'cause, again, this project is called the Los Angeles Street Civic Building Project.

The project does not take the entire block. It really is defined just outside the perimeter of the building itself, as you have the 911 facility, the parking structure, a parking area, and the Metro

Detention Center area that really fill up the balance of the block and so this board is to help you with the illustration when we talk about the three concepts.

There are three alternatives that are being given consideration that are new. There are actually -- in the EIR, there are four alternatives and Alternative 1 is no project and that is the building sits as it is and nothing is done. What we're primarily presenting tonight is the three alternatives that would deal with the existing facility and site.

So Alternative B1 is the restoration of the existing Parker Center facility and it's approximately a 319,000 square feet gross building area and the initial plan would be to do a complete seismic upgrade, new infrastructure upgrade to bring the building to be fully safe with current codes, and then it would be utilized for City department offices.

The site redevelopment would be the general area in front to Los Angeles Street and a portion behind the building off of Judge Aiso. There would be some underground parking, approximately I think 179 stalls that would be provided, and those would access off of Judge Aiso. And so the former Detention Center area as well as the overall area of the police facility would be retrofitted for office use.

Parker Center has been identified as an eligible historic building and as such, any improvements that are done have to be done to comply with the Secretary of the Interior's standards for the upgrade of historic structures, so that would be -- that will be an important issue relative to this particular option.

The next alternative, which is Alternative B2, would be to preserve a major portion of Parker Center, approximately 260,000 square feet of the 319-, and demolish the former Detention Center and build a new addition which would be adjacent that we would connect to the building, but it would be built separately so that the buildings only touch where there would be a connection at the various floor levels. This would provide a total of 522,000 gross square feet for use within the building.

With the demolition of the Detention Center portion, there would be available land to build additional levels of underground parking so that we would increase the number of stalls. The actual number of proposed parking stalls or spaces that would be on-site is approximately 328 and that also would access from Judge Aiso.

I wanted to go back for a moment and point out that the existing facility does have some minor parking

that has access from Los Angeles Street. That would be -- on all three alternatives, that would be closed off. The vehicular access would only be from Judge Aiso.

The plan -- this particular building addition would be approximately in line with the height of the Parker Center building as it exists.

One common theme that -- in looking at the concepts and the idea is to -- in all of the alternatives is to try and develop a pathway and public zone that would connect both the City Hall, City Hall East, and the mall, and that would come through and then would allow connectivity here (indicating) for all of the future developments that will take place in Little Tokyo, and that varies because of existing building versus new building and how that configuration would work, but the goal is to try to achieve that with all of the alternatives.

The Alternative B3 would do a complete demolition of the existing Parker Center facility and it would build a new government office building that would be approximately 750,000 square feet and it would have underground parking below the tower building, and the parking count is approximately 1173 parking spaces that -- and this would go down approximately four levels below and, again, access to and from parking would be off

of Judge Aiso.

The dotted line that is shown here (indicating) is identifying the areas within this zone that a new building may be constructed; however, there is consideration to its proximity to the Metro Detention Center and as well as to the 911 Call Center in regard to that. So they're -- we're at this point proposing flexibility to allow for a determination when -- if this were to be the selected alternative, to do either it could be a single building or it could be multiple side-by-side buildings, but they would have -- they would be within a certain zone on the site.

And as I was mentioning the connectivity, this particular scheme would have public area and access that would come through so that the building would go over that and upper stairways to allow the public space.

And I think that's a summary of what is proposed for the various concepts, so we can certainly get into any questions and answers after I have Paulette from ICF give you an overview of the EIR process.

So Paulette Franco.

MS. FRANCO: Thank you.

Thank you, Jerry. I'm from ICF. We're an environmental consultant and we worked on the EIR, the Environmental Impact Report, with the City. The City's

Bureau of Engineering is the lead agency and the EIR was prepared as required by the California Environmental Quality Act.

So I just want to give an overview of where we are in the process and then we'll open it up for public comment.

The process started with a Notice of Preparation, with the Draft EIR which was published last May, and we had a Scoping Meeting here in this room at that time and received comments on what the public would want to see in the Draft EIR, and then we prepared the Draft EIR and addressed all of those concerns in the Draft EIR.

The Draft EIR was published and all of you should have received the Notice of Availability. It was sent out on September 5th, which started a 45-day period of public review, and that review period ends September 21st (sic), which is next week.

MR. KARIMZADEH: October.

MS. FRANCO: I'm sorry. October. We're in October. I'm a month off. October 21st. Thank you, Mahmood.

It started 45 days, September 5th to October 21st. So all of the public comments should be submitted to Jim Doty, the Environmental Affairs Officer with the Bureau of Engineering, and his address is on the

Notice of Availability. There are copies on the table if anyone needs a copy. Hopefully you have one also.

The information is also on the Bureau of Engineering website, as well as a copy of the Draft EIR and all the technical support and documentation that goes along with it.

So once we've received all of those comments on what you like in the EIR, what you don't like in the EIR, any questions or concerns, if you prefer one alternative or another, we would like to hear that. After we receive all of those comments, we will respond in writing to each of those comments, but those responses then will be compiled into a Final Environmental Impact Report and then that will be again made available to the public and will be published on the Bureau of Engineering website.

So that in general is how the process works. And in addition to providing those written comments, we have a court reporter here tonight. She can take verbal comments. So if you have verbal comments, to make it easier for her, if you could, fill out a comment card with your name so she can record your name on it and information. That way, we can make sure we are responding in our Final EIR.

Does anybody need a card at this time to fill out or do all of you have it?

So with that said, do any of you have questions about the process before we open it up for comments?

MR. WATANABE: I wasn't sure what he said about the Parker Center building itself.

Did you say that is designated as a historic building?

MR. PENROSE: It has been identified as eligible --

MR. WATANABE: Eligible.

MR. PENROSE: -- for a designation as a historic building.

MR. WATANABE: But it's not been registered.

MR. PENROSE: It's not -- it's not currently on a list yet such as being the City Hall.

MR. WATANABE: I saw somewhere before that the inside of the building -- something was somewhere that there are art pieces of the --

MR. PENROSE: Yes. There are art pieces that have been developed that were part of the original building and those -- those would -- in an alternative where the building were not to be kept, such as Alternative 3, those art pieces would be removed. They would not be demolished, and they definitely are part of the original -- they're not part of the historic fabric of the building, but they're part of the original character of the building and have been identified themselves.

MR. WATANABE: So that means complete demolition is possible. Okay.

MR. PENROSE: Of the building.

MR. WATANABE: And it can be moved.

MR. PENROSE: Those can be removed, yes.

MR. WATANABE: Okay.

MR. PENROSE: And that is identified.

MS. FRANCO: Yeah. That would be the Alternative 3, Alternative B3. B just stands for "build" because we have a No Project, a No Build Project. So that would be the third build project, Build 3. That would be the demolition of the project, but there are those art pieces that would be able to be saved and that's discussed in the EIR if you want to read it. I would encourage everybody to read as much as they would like. We do have a section that has historic resources, the building itself and all the features within the building.

MR. YAMAGUCHI: Actually, two questions. The No Build option means that the building will stay empty?

MS. FRANCO: Yeah. So that's kind of a weird thing, it might sound like, because the building is empty now, but it's required under CEQA, under the California Environmental Quality Act, that we look at a No Project alternative. So it's one of those things that is required so the decision-maker can see the range of

options that could happen. So what would happen to the property if this project did not move forward under any other alternatives? It's something that's required as State law. That's why it's there. I mean, it's a bit odd in this particular situation, meaning that the building is mostly vacant.

MR. LOWE: And, you know, I don't remember getting an e-mail about the availability of the EIR, so I haven't seen it yet so this question may be way off base, but when do you actually look at like cost comparisons between B1, B2, B3, and the need for additional City office space?

The reason why I ask that question is I remember when Mayor Riordan was mayor and they were going to build a City Hall expansion at First Street, that block to the east of this current site, the mayor nixed it saying, We don't need it and we're going to save the money. So that project never went ahead.

So I guess my question would be, do we really need additional City Hall space and when do you compare the cost of doing B1 versus B2 versus B3?

MS. FRANCO: That's a great question.

So the cost considerations are not part of the EIR.

MR. LOWE: Okay.

MS. FRANCO: That is -- it's just not part of the environmental process, but it is part of the City process. So I can't speak to that, but Mahmood can certainly speak to that.

MR. KARIMZADEH: Yeah. Let me. That's a very good question. Actually, this Parker Center wouldn't be as costly a project except that Option Number 1 and the three other options would not add square footage to the City facilities. It would be replacing. That means staff of 200 or 300 that are now in government buildings.

For example, the government building at 7th Street and then three blocks all this way, they're going to move to this building. Not only does the City eliminate the lease of space, but also it will provide them with the space to provide their services close to the City Hall.

Now, that has two good things that can happen. One is elimination of leased space which never is good in the long term; the short term maybe. Long term they are always paying leases which is a lot of money, but the other benefit from that is a lot of people who are doing business on those locations have to one way or the other come also to City Hall or the City offices. Now, not only does staff have a better chance to provide services because they're closer to City offices, but also Public

Works staff, this organization, also can do all of their own businesses at one place at one time rather than going back and forth between many buildings.

For example, the Public Works building at 201 Broadway provides some services to the public. At the same time, the public goes there and has to make a trip to City Hall because other services are at City Hall. In terms of cost, I know Paulette said there is no cost estimation into the EIR process; however, the City is looking at these building costs very closely.

One is the cost of the building. The other is the efficiency that it provides, because you can spend a lower money and get lower benefits. You get more money, more benefits. You have to see which ratio is bigger or larger in terms of efficiency of how much you get for the buck.

From that, if this -- we believe that the City also has provided some cost analyses that we have. Option Number 1, B1, that is providing the complete retrofit to the existing facility with no demolition, no major modification I should say, because there might be some small things here and there that has to be fixed, but basically it will stay the same and we will provide a complete retrofit. That means making the whole facility to comply with the current codes. That cost is

identified at about $215 million.

The option B2 that is basically a hybrid -- we demolish a portion of the facility and we build an addition to it -- that we give better efficiency because now we get more square feet, that option, that hybrid option, the cost is about $325 million.

Now, I should go back to the first option a little bit to compare it with it. The first option, keeping the whole thing intact, just repairs it, right, and the square footage you'd be getting from that is 319,000 square feet. The 319,000 square feet provides almost no parking; right? You can't really provide any parking besides a few handicapped parking. Really, it would be very much underrated, no parking. So people who go there for 319,000 square feet have to park somewhere else.

The option number two provides more parking, provides some parking because now we have an addition and under the addition we provide some parking for the City. However, the parking facilities for the Option Number 2, which is a hybrid option, is much lower than required by code. I don't want to say much lower, but it's lower. It's lower than a quarter. That means if we get the required code as a normal lower level of parking, that means more than usual, people have to go and find parking

elsewhere to park.

Option Number 3, B3, provides all the square footage -- the Number 2, the hybrid, provides 522,000 square feet. So it's more than 319,000, 522,000, and the cost is $325 million.

Option Number 3, B3, is basically a replacement of the whole facility with a new building. That's anticipated to be about 753,000 square feet and the price tag with that is $475 million. However, this option will provide more than required parking spaces for the City. That means not only as a regular ability, but you take the code requirement as for the lower level, people can park inside the parking and it provides some additional parking, more than the required spaces.

Now, we think based on our analysis that the Option Number 3 provides the most efficiency in terms of dollars spent per square foot received.

Option Number 2 is after Number 3 is the better efficiency. Option Number 1 provides the lowest efficiency in terms of the money spent and the project you receive, but this is basically the three cost analyses for these three options.

One more thing to recognize here is that the existing facility when it is repaired, it will be repaired significantly. That means we have to add a lot

of walls. You have to add a lot of columns to it and some of the building windows are going to be covered by those walls because of repairs. So not only is it a building which was built more than 50 years ago, but in terms of the space, it is inefficient, but those walls are also going to impact that a little bit more.

The Option Number 2, which is hybrid, the additional portion will be built based on the standards of the office spaces today; however, the existing space is still the same.

And the Option Number 3 of course is based on the standards of today in terms of code and also the efficient office layout, I should say.

So this offers some analysis in terms of what at the end of the day we receive for the three options.

MS. FRANCO: Okay. If anyone wanted to come give comments verbally on the EIR, we can record them.

You would? Do you have a commentor card? There you go. Great. If you could, stand up and speak up or you're welcome to come to the front just so the court reporter can hear you.

MR. ISHII: I'm going to state from here.

My name is Craig Ishii. I'm the chair of the Little Tokyo Community Council and our comments, we kind of have just four basic kind of bullet points.

8-1

I think the first is, you know, if going with I guess the hybrid option or sort of the complete demolition and construction of a new option, you know, whatever retail goes on the ground floor, I think Little Tokyo is always interested in making sure we have some input, make sure that we don't get all Starbucks on the bottom floor. We want to make sure that we have community-minded businesses. We may have some that we'd like to recommend that would attract more businesses. So if retail does go in one of those hybrid or the new options, we'd like to have input on that.

8-1 cont'd.

The second part is, you know, I think that a lot of the community was highly disappointed that the CalTrans building seems to sort of have its back facing to the community and it didn't feel like it was very welcoming. It didn't feel like it connected to the community very well. So we hope with the new construction, it looks like with the breezeway and I guess with the hybrid option, we just want to make sure that that doesn't happen again.

8-2

The third is that a public arch should be funded that reflects the historic connection with the block to Little Tokyo. So that's the third point.

8-3

I think the fourth major one, especially with this option, is we're working on a big project right now

8-4

that encompasses First Street north called Sustainable Little Tokyo and the idea is we're looking at three major parcels, the Mangrove, the First Street North property, as well as the soon-to-be-vacant lot that Metro's going to be developing on that has Senor Fish, and the community vision has the consultants coming together. They're coming from across the nation. We've had a number of charrettes and the idea is that we're really looking to build a community-minded vision for those three sites.

So we think it would be strategic if Parker Center -- and Paul knows this -- could kind of connect with whatever vision we have for those sites. It just kind of makes more sense.

You know, I was going to bring maps to kind of just put on public records, but we don't have those drafts completed yet, so we'd hope that we'll be able to submit them. And I think we're allowed to e-mail?

MS. FRANCO: Yeah. Jim's e-mail address is on the Notice of Availability, so --

MR. ISHII: So we're going to have a number of drafts specifically for First Street North to -- we hope to be able to submit those so you folks might be able to just kind of keep that in mind as we develop them.

MS. FRANCO: Thank you.

8-4 cont'd.

Okay. Bill Watanabe.

MR. WATANABE: Well, I would just affirm what Craig mentioned about the back side of the building and the CalTrans -- and this was probably mentioned before, but CalTrans is a good example where on Los Angeles Street, you know, it looks very nice and there's a broad entrance, but from San -- Los Angeles Street? Main Street. But Los Angeles Street, if you come out of the hotel, I mean, it is desolate. You're looking at this wall. You're looking at a driveway into the parking garage. It's concrete. It's this huge wall that goes up there and, you know, it looks like it could be a prison or something.

I mean, it's just not appealing and so I think that's a great example where they put a lot of effort to make the front entrance on Main Street look really nice, but the back side -- and we're really talking about the back side of the building faces Little Tokyo, faces the hotel -- sucks. It really sucks. Thom Mayne got a big award for that building, but I think it's the ugliest building if you're looking at it from Los Angeles. 8-5

So if you look at this design here (indicating) and I don't know, like in the original one, if the main front approach will be from Los Angeles or whether because the parking is going to be coming in from this

way rather than here (indicating) if we have the same back side potential effect. We don't know what's going to happen here in the future, so we would like this -- in fact, we would demand that this not look like somebody's backside. It should have a very attractive, appealing, and inviting look to it, whether it's this one or even this one here because right now if you walk down here (indicating), it's ugly. It's forbidding. It's kind of -- you know, it's not inviting at all. So if there's a chance to do something, I think I just want to reinforce what Craig said.

8-5 cont'd.

MR. PENROSE: I would say that I think there actually isn't a change here as well and that's part of what you see now. So it's going to be very important to that activity; and as with the build alternatives, the whole design change is set back and we really looked at how all of this can pull together so that we really don't want to do what you just described, which is put up a wall to the back. It should be just open.

MR. WATANABE: Yeah. It would be great.

MR. PENROSE: And there really will be an opportunity.

MR. WATANABE: Yeah, because whatever gets built here, it would be great if it was appealing on both sides.

8-6

MS. FRANCO: Okay. Thank you.

Alison Delacruz.

MS. DELACRUZ: Hi. I'm Alison Delacruz. I work locally across the street from the Parker Center at East West Players at the Union Center for the Arts, and we're on the build -- I appreciate that we're on the map. We actually share -- this is us (indicating). We actually share the building with two other art organizations. 8-7

And I would completely echo and kind of reaffirm what both Bill and Craig said in terms of not wanting to be on the butt side of the new building.

Particularly for us at East West Players, my job at East West Players is I'm the Audience Services Manager, so I deal with a lot of people who are coming to our group for the first time. As a company that's been in Little Tokyo for 15 years, we've seen a wide range of experiences because of our contacts. When Parker Center was active, Aiso Street was cut off. We're the staging area. Post 9/11, that street was closed for a year. So we're very aware of what happens on that street and I'm constantly helping people understand how to get to us because we're on a part of the street that people have never heard of. 8-8

So I think it's exciting that this is a new project. I'm a little bit sad that it's called the

Los Angeles Street Civic Building Project because I do think that leaves us out on the Aiso side and I think that over the last 15 years that I have been a community artist who's performed in the courtyard at the Union Center and been a part of it, I have seen the times before this new boom where everybody thought Little Tokyo was a hip place to be and I remember what it was like to make art and gather community when after a certain time of day or on the weekend there's nobody around but community. 8-8 cont'd.

And so I would personally endorse -- I'm interested in B3 as the option because it gives the most potential benefit to the existing community, not only the Union Center for the Arts folks, but the businesses on Judge Aiso. 8-9

We have -- and with the new Aiso underground lot, we have been trying to help community people understand where the parking is. And so for me, part of the win of that third option is the large number of parking spaces. We've lost a lot of parking in Little Tokyo and I know we're moving towards a transit-oriented development process and I'm a commuter on the Metro so I love the Metro, but I also know that people who drive in from everywhere from Oxnard to San Diego to Santa Monica, parking is important for them. 8-10

Accessibility and safety is important for them and creating a continuous Little Tokyo space that connects to City Hall would I think help us to continue to articulate the community that already exists with the community of City workers that you want to bring to our space. 8-11

So when I hear the story about of wanting to let people park in one place to do all their business, I fully support that and I just don't want to be left out of that business because everybody thinks that all the businesspeople attend to in this part of town is City Hall focus when, in fact, we have a very vibrant, active business community, arts and cultural community of people who come to Little Tokyo specifically for the arts and cultural aspect and the small businesses and not just the City services. 8-12

So, yes, I would just echo Number 3 and I would also be interested in an open community process around as the plans become clearer, like what kind of community feedback can we give as the decision is made and once the plans are set so that, as Bill said, we're not looking at the butt. 8-13

MS. FRANCO: Thank you.

Does anyone else want to speak?

Did you get a card?

MR. OKAZAKI: Yeah. I wanted to speak and I want to ask those questions to those that are here.

MS. FRANCO: Just say your name.

MR. OKAZAKI: My name is James Okazaki.

I spent 34 years in City Hall, but I've always -- but I've spent 56 years here in Little Tokyo. So I feel very connected to this community and everything that, you know, Craig and Bill have said, I agree with, in terms of trying to show a City Hall's face to Little Tokyo and not the rear end, the back side, and I think the CalTrans building is a prime example, but that's CalTrans. The City only uses two floors of it and the rest of it is CalTrans. The other thing, CalTrans was as friendly to Little Tokyo as City Hall. **8-14**

Anyway, I was wondering which option, 1, 2, 3, has the most improvement on the street side? In other words, I'd like to see all the streets, including First Street, be more active. Because you put the 911 Call Center there, there's no access off of First Street and, you know, I would like to see pedestrian access off of each one of the streets, Temple, L.A., John Aiso and First, somehow even meandering a walk to get to the City Hall facility that you're building. **8-15**

But I was wondering, do you have money for any one of these projects, Mahmood? **8-16**

MR. KARIMZADEH: The City is thinking now about the financial aspects of the project. They just started the dialogue, but you have to do something because the Parker Center cannot stay the way it is.

MR. OKAZAKI: Yeah, you know, not to be cheap, but they are willing to float a bond and do that more expensive brand-new facility that's, you know -- 8-17

MR. KARIMZADEH: Right. Right. They are very seriously considering all the options and I think if the Option Number 3 is what the EIR process will be, through the EIR the City will be ready for it if it is the preferred option.

MR. OKAZAKI: The City Hall was built in 1927 so it's 90 years old so we hope the new building will last a hundred years also, but I think you're right. We want to build a building that's up to the current standard so it will last another hundred years with the best seismic and other standards; ADA, too. 8-18

I was also wondering if the third option has the best setback in terms of landscaping and hardscaping so that the building is really tall but further back and gives us sort of more space; you know, how the new Parker Center, this building was set back to give -- it created a park for the building. Something like that, is that available in all of the options or is it only available 8-19

in the third option?

And I think I heard the third option has the best option in terms of community parking; right?

I think that's it. I just wanted to put that in the public comments.

MS. FRANCO: Okay. Great.

MR. OKAZAKI: I'm interested in all of those issues.

MS. FRANCO: Yeah. Fill that out.

Did anyone else need a comment card or want to speak?

MR. YAMAGUCHI: I don't have a comment, but I have another question if that would be okay.

MS. FRANCO: Yeah. If you fill this out, then we can also include it in the Final EIR.

MR. YAMAGUCHI: Well, it was kind of related to what James said. Whatever the option is at the end, the City owns it; right? So would it be possible for the City to sell it prior to the development, the entire --

MR. KARIMZADEH: Right now, I don't think that option is on the table. That means that actually the City went through this expensive process of an EIR in order to do something good for itself. We wouldn't be doing that if they have an interest in selling that to other entities. I think they are very much interested because of the location and the fact that there is 911 and the

8-19 cont'd.

8-20

8-21

facilities on both sides, that is something that should be made as a government facility.

MR. YAMAGUCHI: Okay.

MR. LOWE: I just have a quick question, actually.

For any of the three options, is there any sense of what the time line of renovation or demolition, reconstruction would be for that process? I know it's really early to say, but I was just wondering. 8-22

MS. FRANCO: Yeah. So how long will construction take under each of the alternatives?

MR. KARIMZADEH: Well, I think it would be fair -- very good question, Andy, but since we don't really know the details of any options from a construction aspect, we really can't comment on that, but I think each one of these options, probably the process will be a five-year process. I mean, you're looking at almost the same.

The reason for that is Option Number 1, which is a rehabilitation, is almost very, very tough. There has to be a very tedious process of what we need to do with the option and take out, what we can't put back. It's very time-consuming.

The hybrid option, at least you won't have to deal with half the facility because you have an addition there.

The Option Number 3 is larger, but then it

doesn't have to deal with these things so probably that could, you know, make a balance. So I think probably you don't look at the significant differences. There are differences but not significant.

MR. LOWE: Just because, I mean, the first thing in terms of the concern would be, you know, whichever decision is made, you know, what the impact of, you know, construction, noise, dust --

8-23

MS. FRANCO: Yeah. Those were all subjects that we looked at in the EIR and for the purposes of construction, we took it to the worst-case approach. Because we don't have all of the details, so we looked at what is the worst-possible construction scenario and then those impacts are analyzed. So if you have specific concerns about those analyses, you know, please let us know and we can address those in the Final EIR.

Yes?

MR. OKAZAKI: A couple of questions.

Was there a decision that Parker Center is historic or is not considered as that? I missed that.

8-24

MR. KARIMZADEH: I understand, but we're not here for that.

MS. FRANCO: We talked about it earlier.

MR. OKAZAKI: Just say yes or no is fine.

MS. FRANCO: It's not designated, but it's considered

potentially as eligible.

MR. OKAZAKI: The second question is Options 1, 2 and 3, I think 1 and 2, access to the parking will probably stay where it is on L.A. Street, but for Option 3, where would the access to the parking facility, the 1500 spaces, be? What streets, Mahmood? 8-25

MR. KARIMZADEH: It looks like -- we don't know because we're not through with the design yet, but I think one of the options for that option, one of the choices that we have, is to come to the parking from the Judge Aiso Street.

MR. PENROSE: And it's identified in all three options, so you have parking access from Judge Aiso.

MR. OKAZAKI: Why is that? 8-26

MR. PENROSE: So there will no longer be parking access from Los Angeles Street. Part of the reason is actually a grade difference between the two and actually, it works out better parking in because you're actually lower than the building at Los Angeles Street.

MR. OKAZAKI: I think it just puts a lot of cars on Judge Aiso and influences the other businesses. You know, if you have access to all three -- but the problem that I'm seeing is even if you guys design access from multiple locations to minimize the traffic impact, based on what I have observed all over town, a lot of people 8-27

have been closing not just entrances to buildings but also entrances to parking areas, which really screws up access and circulation in the vicinity, impacts adjacent intersections negatively, but that's never evaluated when they close the access to the parking for the building. It makes people go all the way around.

When they were designed, they had a back door, front door, side door, but after 9/11, they only allowed using one entrance for parking and pedestrians and it really makes it a circuitous routing for both buildings and peds and some movements cannot be made; but when you do the EIR, you show a whole bunch of entrances so the traffic pattern is not critical and it doesn't show up to be a major problem, but a year or two down the line when you close it for some reason or another, then nobody reevaluates the impact of the closures. I've seen that all over the town.

8-27 cont'd.

Plus, the federal government put in, you know, walls all over and really impeded ADA and other pedestrian access. You know, that's an issue. I hope you guys look at that and try to mitigate that or compensate for that in your design in case you guys end up doing that, because the Chief of Police says you have to close this access, close that access and so forth and so on. Okay.

8-28

MS. FRANCO: Okay. Well, again, just as a reminder, you're still welcome to provide written comments up until October 21st and if you need the address or e-mail, please let us know. It's on the Notice of Availability. If you're not sure what that is, it's this form here (indicating).

So does anyone need this now, as it has the address and e-mail on it? It's on the back side.

It doesn't seem like anyone has anything else. Okay. Well, thank you all and please, if you haven't signed in, please sign in so we can keep you updated as the project moves along.

MR. PENROSE: Thank you again. We appreciate you coming. We appreciate your comments.

(Proceedings concluded at 7:30 p.m.)

Letter 8 Public Meeting Transcript of Oral Comments

Responses

Craig Ishii, Little Tokyo Neighborhood Council

8-1 The comment is stating suggestions for the types of retail to be introduced on the ground floor under the build alternatives. The comment is acknowledged and has been forwarded to the City for consideration. The comment is not a specific comment on the Draft EIR, and no further response is required.

8-2 The comment is stating a preference for a design that is connected and welcomes the community to the east. The comment is acknowledged and has been forwarded to the City for consideration. The comment is not a specific comment on the Draft EIR, and no further response is required.

8-3 The comment that a public arch that reflects the connection to Little Tokyo is acknowledged and has been forwarded to the City for consideration. The comment is not a specific comment on the Draft EIR, and no further response is required.

8-4 With respect to the "Sustainable Little Tokyo" project, see Response 7-7.

The comment suggesting that the proposed project share a linked vision with the proposed "Sustainable Little Tokyo" project is acknowledged and has been forwarded to the City for consideration.

Bill Watanabe, Little Tokyo Historic Society

8-5 The comment discusses the proposed design of the build alternatives and compatibility with the design of adjacent buildings. Specifically, the comment is requesting an aesthetically pleasing design for the front and rear sides of the proposed building. The comment has been forwarded to the City for consideration. The Aesthetics section of the Draft EIR (Section 4.1) discusses potential impacts that would result with implementation of the build alternatives, including the degree to which the build alternatives would contribute to aesthetics in the surrounding area.

8-6 The comment is stating a preference for an aesthetically appealing design. This is not a specific comment on the Draft EIR, and no further response is required.

Alison Delacruz, East West Players

8-7 The comment supports the two previous comments regarding the proposed design of the build alternatives, including the request for an aesthetically pleasing design on both the front and rear sides of the building. This is not a specific comment on the Draft EIR, and no further response is required.

8-8 The comment is describing access issues for the East West Players. Additionally, the comment is describing personal involvement with the East West Players. The comment expresses general support for the project, though not for the proposed name. These comments are not specific comments on the environmental analysis in the Draft EIR; therefore, no further response is required.

8-9 The comment states support for Alternative B3. The comment is acknowledged.

8-10 The comment cites parking as the primary reason to support Alternative B3. The comment is acknowledged.

8-11 As described in the Draft EIR, implementation of the proposed build alternatives would not disrupt access for existing uses located in the surrounding area. Issues of safety were analyzed in Section 4.5 (Hazards and Hazardous Materials) and in Section 6.1.4 (Public Services) of the Draft EIR. Impacts related to police and fire services were determined to be less than significant. Emergency access impacts were also determined to be less than significant. The project alternatives would provide all required emergency access in accordance with City requirements; therefore, the project would not result in inadequate emergency access.

8-12 The comment is stating that the surrounding area contains a variety of land uses, including civic, business, arts, and cultural uses. The comment is acknowledged. This comment is not a specific comment on the analysis contained in the Draft EIR. Therefore, no further response is required.

8-13 The comment is reiterating support for Alternative B3 and requesting an open community process. The comment is acknowledged.

James Okazaki, Little Tokyo Community Council

8-14 The comment is requesting that both the front and rear sides of the proposed building include an aesthetically pleasing design. The comment has been forwarded to the City for consideration.

8-15 See Response to 7-2.

8-16 See Response to 7-3.

8-17 The comment is stating an opinion regarding bonds. This is not a comment specific to the analysis contained in the Draft EIR. No further response is required.

8-18 The comment is stating support for a proposed structure to be constructed to current building standards, including seismic standards, and compliant with the American with Disabilities Act (ADA). The proposed structure would be constructed to meet all City building standards and all applicable seismic standards. It would also be ADA compliant.

8-19 See Response to 7-4.

8-20 The comment is correct in stating that, of the three build alternatives, Alternative B3 would provide the greatest number of parking spaces. This is not a comment specific to the analysis contained in the Draft EIR. No further response is required.

Mr. Yamaguchi

8-21 The comment is posing a question about the City's ability to sell the site prior to development. The comment has been forwarded to the City for consideration. This is not a comment specific to the analysis contained in the Draft EIR. No further response is required.

Mr. Lowe

8-22 The comment is asking about the duration of proposed demolition and construction activities. As described in Chapter 3.0 (Project Description) of the Draft EIR, demolition of the existing building or portions of the existing building would be approached floor by floor, starting from the top floor of the building and progressing downward. For Alternative B1, demolition and construction would take place simultaneously for a period of approximately 18 to 24 months. For Alternatives B2 and B3, the demolition phase would last approximately 8 to 10 months. The construction phase for Alternatives B2 and B3 would last approximately 14 to 18 months and 18 to 24 months, respectively.

8-23 Section 4.7 (Noise and Vibration) of the Draft EIR addresses construction and operational noise impacts. No significant impacts would occur under any of the alternatives. Therefore, no mitigation measures would be necessary. Section 4.2 (Air Quality and Greenhouse Gas Emissions) of the Draft EIR identifies construction air quality impacts related to dust under the build alternatives. Mitigation measures AQ-1 through AQ-5 would reduce air quality construction impacts to a less-than-significant level.

Mr. Okazaki

8-24 The comment is posing a question on the historic status of the Parker Center building and not on the analysis contained in the Draft EIR. As described in Section 4.3.1 (Historical Resources) in the Draft EIR, the building is considered to be a historic resource under CEQA. The comment is not a specific comment on the analysis contained in the Draft EIR. No further response is required.

8-25 Final design regarding proposed parking access under Alternative B3 has yet to be determined. Similar to Build Alternatives B1 and B2, access could be provided from Judge Aiso Street. As stated in Chapter 3.0 (Project Description) of the Draft EIR, access would be provided from Judge John Aiso Street. Additionally, a service entrance from Judge John Aiso Street would be provided just south of the parking structure to the south side of the office tower. The comment is not a specific comment on the analysis contained in the Draft EIR. No further response is required.

8-26 The comment is asking why parking access would be provided from Judge Aiso Street. The City is considering Judge Aiso Street in part to eliminate proposed access from Los Angeles Street due to a grade difference between the two streets. This is not a specific comment on the analysis contained in the Draft EIR. No further response is required.

8-27 The comment is expressing a preference regarding parking access. The comment is acknowledged and has been forwarded to the City for consideration. This is not a specific comment on the analysis contained in the Draft EIR. No further response is required.

8-28 The comment is stating an opinion about ADA requirements and the proposed design. The comment is not a specific comment on the analysis contained in the Draft EIR. As stated in the Draft EIR, code-required improvements, such as ADA upgrades, would be implemented under the build alternatives.

Chapter 4
Mitigation Monitoring and Reporting Program

CEQA requires agencies that adopt EIRs to take affirmative steps to determine that approved mitigation measures are implemented after project approval.

As part of CEQA's environmental review procedures, Section 21081.6 requires a public agency to adopt a reporting or monitoring program for assessing and ensuring efficacy of any mitigation measures applied to a proposed project. Specifically, the lead or responsible agency must adopt a reporting or monitoring program for mitigation measures incorporated into a project or imposed as conditions of approval. The program must be designed to ensure compliance during project implementation. As stated in Public Resources Code Section 21081.6 (a) (1):

The public agency shall adopt a reporting or monitoring program for the changes made to the project or conditions of project approval, adopted in order to mitigate or avoid significant effects on the environment. The reporting or monitoring program shall be designed to ensure compliance during project implementation. For those changes which have been required or incorporated into the project at the request of a responsible agency or a public agency having jurisdiction by law over natural resources affected by the project, that agency shall, if so requested by the lead agency or a responsible agency, prepare and submit a proposed reporting or monitoring program.

CEQA Section 15097 provides general guidelines for implementing mitigation monitoring and reporting programs (MMRPs). Specific reporting and/or monitoring requirements, which are to be enforced during project implementation, shall be defined prior to final approval of the proposal by the responsible decision maker(s). In response to established CEQA requirements and those of Public Resources Code Section 21000 et seq., the proposed MMRP for the Los Angele Street Civic Building Project shall be submitted for adoption by the decision makers prior to completion of the environmental review process. Under each identified resource, the mitigation measure(s) identified in the Draft EIR and the implementation and monitoring requirements are discussed. The implementation and monitoring requirements set forth in this MMRP are as follows:

- Party Responsible for Implementation of Mitigation;
- Implementation Phase;
- Party Responsible for Monitoring Activity;
- Monitoring Activity;
- Monitoring Period;
- Monitoring Frequency; and
- Outside Agency Coordination.

Mitigation is required to address significant or potentially significant impact(s) in the following issue areas:

- Air Quality and Greenhouse Gas Emissions
- Cultural Resources
- Geology and Soils
- Hazards and Hazardous Materials
- Transportation and Traffic

Table 4-1 presents the MMRP for the project proposed under Alternative B3.

Table 4-1: Mitigation Monitoring and Reporting Program

Mitigation Measure	Responsible Party	Implementation Phase	Monitoring Party	Monitoring Activity	Monitoring Period/ Frequency	Outside Agency Coordination
Alternative B3 Demolition and Build						
Air Quality and Greenhouse Gas Emissions						
AQ-1: During construction, non-VOC containing paints, sealants, adhesives, solvents, asphalt primer, and architectural coatings shall be used where feasible, or pre-fabricated architectural panels shall be used in the construction of the project to reduce VOC emissions to the maximum extent practicable. VOC-containing materials shall be Super-Compliant Low VOC paint that meets "super-compliant" VOC standard of < 10 g/L of the South Coast Air Quality Management District (Rule 1113). These requirements shall be specified in the final architectural plans to be approved by the City of Los Angeles Department of Building and Safety prior to issuance of building permits.	Bureau of Engineering Contractor	Construction	Bureau of Engineering	Use of specified materials	Ongoing	Bureau of Contract Administration, Department of Public Works
AQ-2: Construction-period Haul Trucks – Model year 2010 and newer diesel haul trucks shall be used for material delivery trucks and soil import/export; if the lead agency determines that 2010 model year or newer diesel trucks cannot be obtained, the lead agency shall use trucks that meet EPA 2007 model year NOX and PM emissions requirements.	Bureau of Engineering Contractor	Construction	Bureau of Engineering	Use of specified equipment field inspection	Ongoing	Bureau of Contract Administration, Department of Public Works
AQ-3: Construction Off-road Equipment – Phase in the use of offroad construction equipment per the following schedule: • Project Start to December 31, 2014: All off-road diesel-powered construction equipment greater than 50 horsepower (hp) shall meet Tier 3 off-road emissions standards. In addition, all construction equipment shall be outfitted with Best Available Control Technology (BACT) devices certified by the California Air Resources Board (CARB). Any emissions control device used by the contractor shall achieve emissions reductions that are no less than what could be	Bureau of Engineering Contractor	Construction	Bureau of Engineering	Use of specified equipment field inspection	Ongoing	Bureau of Contract Administration, Department of Public Works

Mitigation Measure	Responsible Party	Implementation Phase	Monitoring Party	Monitoring Activity	Monitoring Period/ Frequency	Outside Agency Coordination
achieved by a Level 3 diesel emissions control strategy for a similarly sized engine as defined by CARB regulations. • Post-January 1, 2015: All off-road diesel-powered construction equipment greater than 50 hp shall meet the Tier 4 emission standards, where available. In addition, all construction equipment shall be outfitted with BACT devices certified by CARB. Any emissions control device used by the contractor shall achieve emissions reductions that are no less than what could be achieved by a Level 3 diesel emissions control strategy for a similarly sized engine as defined by CARB regulations.						
AQ-4: SCAQMD "SOON" funds – Encourage construction contractors to apply for SCAQMD "SOON" funds. Incentives could be provided for those construction contractors who apply for SCAQMD "SOON" funds. The "SOON" program provides funds to accelerate cleanup of off-road diesel vehicles, such as heavy-duty construction equipment. More information on this program can be found at the following website: http://www.aqmd.gov/tao/Implementation/SOONProgram.htm.	Bureau of Engineering Contractor	Preconstruction	Bureau of Engineering	Encourage use of clean construction equipment incentives	Once prior to construction	Bureau of Contract Administration, Department of Public Works
AQ-5: Use of existing electricity infrastructure. The City shall require by contract specifications that construction operations shall rely on the electricity infrastructure surrounding the construction site rather than electrical generators powered by internal combustion engines to the extent feasible. Contract specification language shall be reviewed prior to issuance of a grading permit.	Bureau of Engineering Contractor	Preconstruction	Bureau of Engineering	Use of existing electricity infrastructure	Once	Bureau of Contract Administration, Department of Public Works
GHG-1: Prior to the issuance of building permits, the project applicant shall prepare a recycling/solid waste reduction plan, subject to review and approval by the City of Los Angeles Department of Building and Safety. The City shall ensure that the proposed project maintains a recycling/solid waste	Bureau of Engineering Contractor	Prior to issuance of building permits	Bureau of Engineering	A recycling/ solid waste reduction plan will be prepared	Once	City of Los Angeles Department of Building and Safety

Mitigation Measure	Responsible Party	Implementation Phase	Monitoring Party	Monitoring Activity	Monitoring Period/ Frequency	Outside Agency Coordination
reduction program that achieves a minimum reduction of 20 percent by volume of solid waste for Alternative B1, and 25 percent by volume for Alternatives B2 and B3.						
GHG-2: Prior to the issuance of building permits, the City of Los Angeles Building Safety Department shall ensure that the proposed project incorporates energy conservation measures into the design of the proposed project that exceed mandatory requirements lighting efficiency requirements by 10 percent.	Bureau of Engineering contractor	Design	Bureau of Engineering	Incorporation of lighting efficiency measures	Once	City of Los Angeles Department of Building and Safety
GHG-3: Prior to the issuance of building permits, the City of Los Angeles Building Safety Department shall ensure that the proposed project incorporates water conservation measures that shall include, but shall not be limited to, the following: reduce potable water demands by installing water-conserving, low-flow faucets, toilets, and urinals, etc.	Bureau of Engineering Contractor	Design	Bureau of Engineering	Incorporation of water conservation measures	Once	City of Los Angeles Department of Building and Safety
Cultural Resources						
HR-3: The HABS/HALS documentation shall be deposited with the Library of Congress, Los Angeles Public Library, Los Angeles Conservancy, and Los Angeles Police History Museum within a month of its completion.	Bureau of Engineering Contractor	Preconstruction	Bureau of Engineering	Deposit of documentation with Library of Congress	Once	Library of Congress, Los Angeles Public Library, Los Angeles Conservancy, and Los Angeles Police History Museum
HR-5: Based on the HABS/HALS documentation, the City shall create a display interpreting the building's significance and displaying it in the public spaces of the building within a month of the issuance of the Certificate of Occupancy.	Bureau of Engineering Contractor	Prior to Issuance of Certificate of Occupancy	Bureau of Engineering	Installation of display based on HABS/ HALS documentation	Once	Department of Public Works
HR-6: The City shall document Parker Center according to HABS/HALS guidelines before demolition takes place	Bureau of Engineering Contractor	Prior to Demolition	Bureau of Engineering	Preparation of HABS/HALS documentation	Once	Department of Public Works

Mitigation Measure	Responsible Party	Implementation Phase	Monitoring Party	Monitoring Activity	Monitoring Period/ Frequency	Outside Agency Coordination
HR-7: The City shall incorporate Parker Center's original public art pieces, "Theme Mural of Los Angeles" and "Family Group," into the design and setting of the new building or the police headquarters building on 1st Street. These public art elements shall be installed at the time of issuance of the Certificate of Occupancy.	Bureau of Engineering	Issuance of Certificate of Occupancy	Bureau of Engineering	Installation of public art elements	Once	Department of Public Works , Los Angeles Police Department
ARC-1: A qualified professional archaeologist shall monitor all initial phase of ground disturbing activities of the project. If buried cultural resources — such as flaked or ground stone, historic debris, building foundations, or non-human bone — are discovered during ground disturbing activities, work shall stop in that area and within 50 feet of the find until a qualified archaeologist can assess the significance of the find and, if necessary, develop appropriate treatment measures. Treatment measures typically include: development of avoidance strategies, capping with fill material, or mitigation of impacts through data recovery programs such as excavation or detailed documentation. A report of findings shall be prepared, and recovered materials curated, if needed, in an approved facility. If during cultural resources monitoring the qualified archaeologist determines that the sediments being excavated are previously disturbed by previous construction or are unlikely to contain significant cultural materials, the qualified archaeologist can specify that monitoring be reduced or eliminated.	Bureau of Engineering Contractor	Construction	Bureau of Engineering	Field inspections	Daily	Department of Public Works
PR-1: A qualified vertebrate paleontologist shall be retained by the City or project proponent to determine areas that shall require paleontological monitoring during initial ground disturbance. The location of construction activities likely to encounter subsurface sediments with high paleontological sensitivity shall be determined by the qualified paleontologist upon review of project excavation and grading plans. Very shallow	Bureau of Engineering Contractor	Construction	Bureau of Engineering	Field Inspections	Daily	Department of Public Works

Mitigation Measure	Responsible Party	Implementation Phase	Monitoring Party	Monitoring Activity	Monitoring Period/ Frequency	Outside Agency Coordination
surficial excavations, less than 5 feet in depth, within areas of previous disturbance or areas of Quaternary younger alluvial deposits shall be monitored on a part-time basis to ensure that underlying sensitive units (i.e., Quaternary older alluvium) are not adversely affected. Areas consisting of artificial fill materials shall not require monitoring. If excavations for the project take place in Quaternary older alluvial deposits or within Fernando Formation bedrock these excavations shall be monitored on a fulltime basis by a qualified paleontological monitor under the supervision of the qualified paleontologist. This paleontological resource monitoring shall include inspection of exposed rock units during active excavations within the geologically sensitive sediments. Monitoring may be reduced if some of the potentially fossiliferous units described herein are determined upon exposure and examination by qualified paleontologic personnel to have low potential to contain fossil resources. The paleontologic monitors shall be equipped to salvage fossils as they are unearthed to avoid construction delays and to remove samples of sediments that are likely to contain the remains of small fossil invertebrates and vertebrates. The monitor shall have authority to temporarily divert grading away from exposed fossils in order to professionally and efficiently recover the fossil specimens and collect associated data. All efforts to avoid delays in project schedules shall be made. To prevent construction delays, paleontological monitors shall be equipped with the necessary tools for the rapid removal of fossils and retrieval of associated data. This equipment shall include handheld global positioning system receivers, digital cameras, and cell phones, as well as a tool kit with specimen containers, matrix sampling bags, field labels, field tools (awls, hammers, chisels, shovels, etc.), and plaster kits. At each						

Mitigation Measure	Responsible Party	Implementation Phase	Monitoring Party	Monitoring Activity	Monitoring Period/ Frequency	Outside Agency Coordination
fossil locality, field data forms shall be used to record pertinent geologic data, stratigraphic sections shall be measured, and appropriate sediment samples shall be collected and submitted for analysis. Fossils collected, if any, shall be transported to a paleontological laboratory for processing where they shall be prepared to the point of curation, identified by qualified experts, listed in a database to facilitate analysis, and deposited in a designated paleontological curation facility (such as the Natural History Museum of Los Angeles County). Following analysis, a Report of Findings with an appended itemized inventory of specimens shall be prepared. The report and inventory, when submitted to the appropriate lead agency along with confirmation of the curation of recovered specimens into an established, accredited museum repository, shall signify completion of the program to mitigate impacts on paleontological resources.						
Geology and Soils						
G-1: Construction and structural design of the project shall comply with all of the geotechnical recommendations, including design measures, provided in the geotechnical engineering report prepared for the project as described below: • The proposed project shall follow the August 2004 geotechnical report's general recommendation of new structures being founded on spread footing foundations and/or Cast-In-Drilled-Hole (CIDH) pile foundations. The specifications for Cast-in-Drilled Hole Pile Construction, Retaining Walls, Slab-on-Grade, and Cement and Asphalt Pavements shall be followed where applicable. • Under the proposed project, where applicable, the existing Parker Center foundation walls shall be structurally evaluated to determine their capability to resist unbalanced earth loads that	Bureau of Engineering Contractor	Construction	Bureau of Engineering	Compliance with geotechnical recommenda-tions.	Ongoing	Department of Building and Safety

Mitigation Measure	Responsible Party	Implementation Phase	Monitoring Party	Monitoring Activity	Monitoring Period/ Frequency	Outside Agency Coordination
will occur as the result of adjacent excavation, and shoring shall be installed to provide lateral support where needed. • The proposed project shall follow the specifications in the August 2004 geotechnical report regarding site preparation and earthwork, where applicable. • The general specification for Structure Foundations, as described in the August 2004 geotechnical report, will be considered appropriate, with probable minor modifications to minimum sizes and total expected settlement. The given soil specifications, such as allowable bearing pressures and coefficients of friction, shall be similar to those used for the proposed project.						
Hazards and Hazardous Materials						
HM-1: Soils that have visible staining or an odor shall first be tested in the field by the contractor or qualified environmental subcontractor with an organic vapor analyzer (OVA) or other field equipment for volatile components, which require additional considerations in their handling. Soil with OVA readings exceeding 50 parts per million (ppm) volatile organic compounds (probe held 3 inches from the excavated soil face), or which is visibly stained or has a detectable petrochemical odor shall be stockpiled by the contractor separately from non-contaminated soils. The stockpiles shall be barricaded near the excavation area, away from drainage areas or catch basins, on an impermeable plastic liner (6 millimeter nominal thickness and tested at 100 psi strength). Caution must be taken to separate any contaminated soil from the remainder of the excavated material. If only a small amount of contaminated soil is encountered, it may be drummed in 55-gallon steel drums with sealing lids.	Bureau of Engineering Contractor	Preconstruction and Construction	Bureau of Engineering	Field inspection	Ongoing	Department of Building and Safety and Los Angeles Fire Department

Mitigation Measure	Responsible Party	Implementation Phase	Monitoring Party	Monitoring Activity	Monitoring Period/ Frequency	Outside Agency Coordination
HM-2: The soil shall then be sampled in a random and representative manner. To establish waste classification, samples shall be analyzed for total recoverable petroleum hydrocarbons (TRPH); volatile organic compounds (VOCs); total petroleum hydrocarbons (TPH) as gasoline or diesel, if these fuels are found in the area; Title 22 heavy metals; reactivity (pH); corrosivity; and toxicity. The number of samples shall depend upon the volume of material removed, one sample for approximately every ton of soil. Storage space available at the site and neighborhood sensitivity shall determine the amount of soil that can be stockpiled.	Bureau of Engineering Contractor	Preconstruction and Construction	Bureau of Engineering	Soil sampling	Once	Department of Building and Safety and Los Angeles Fire Department
HM-3: If VOCs are present at concentrations exceeding 50 ppm, a permit from the South Coast Air Quality Management District (SCAQMD) shall be required, which most likely will require control of vapor, such as covering the stockpiles with plastic sheeting or wetting with water or a soap solution. The contractor shall obtain all necessary permits.	Bureau of Engineering Contractor	Construction	Bureau of Engineering	Field inspection	Once	SCAQMD and Department of Building and Safety
HM-4: Suspected contaminated soil samples shall be taken to a state certified environmental laboratory or tested in the field with a mobile lab and technician using infrared spectrometry in accordance with appropriate testing methods. Materials with elevated levels of TRPH, metals or other regulated contaminants shall require handling by workers who have been adequately trained for health and safety aspects of hazardous material handling.	Bureau of Engineering Contractor	Construction	Bureau of Engineering	Sampling	Ongoing	Department of Building and Safety
HM-5: Any contaminated material (soil, asphalt, railroad ballast, concrete, or debris) that is to be hauled off-site and is considered a "waste product" shall be classified as hazardous or nonhazardous waste under all criteria by both state and federal codes prior to disposal. If the waste soil or other material is determined hazardous, a hazardous waste manifest shall be prepared by the contractor or its qualified representative and the material transported to an appropriate class of facility for	Bureau of Engineering Contractor	Construction	Bureau of Engineering	Soil sampling	Once	Department of Building and Safety and Los Angeles Fire Department

Mitigation Measure	Responsible Party	Implementation Phase	Monitoring Party	Monitoring Activity	Monitoring Period/ Frequency	Outside Agency Coordination
recycling or landfill disposal by a registered hazardous material transporter. If the soil is nonhazardous but still exceeds levels that can be returned to the excavation, a less costly nonhazardous transporter and soil recycling facility shall be used if no hazardous constituents are present above their respective action levels.						
HM-6: In the event groundwater is encountered during construction, dewatering shall be minimized, sufficient to remove interior or nuisance water from structures. Sampling ports shall be provided in the dewatering system. The produced water shall be required to be temporarily stored in large Baker-type tanks and analyzed by a state certified environmental laboratory selected by the contractor. If the groundwater quality falls within guidelines established by the City Department of Public Works, Bureau of Sanitation, a permit shall be obtained to discharge the water into a nearby sewer.	Bureau of Engineering Contractor	Construction	Bureau of Engineering	Dewatering activities	Ongoing	Department of Public Works, Bureau of Sanitation
HM-7: If hydrocarbon or other water contamination precludes this, the contaminated groundwater water shall be treated onsite (such as in an oil-water separator) or hauled off-site for treatment and disposal in accordance with applicable regulations by a licensed professional.	Bureau of Engineering Contractor	Construction	Bureau of Engineering	Treatment of contaminated groundwater	Ongoing	Department of Public Works, Bureau of Sanitation
HM-8: Prior to demolition activities, all structures within the project site shall be surveyed for asbestos-containing materials (ACMs) and lead-based paint by a licensed professional. All tests shall be performed in accordance with generally accepted testing laboratory methods. Based on lab test results, appropriate measures for handling, removal, and disposal of these materials shall be developed as part of the survey investigation. Any demolition activities that would remove or disturb these materials shall implement the developed measures in accordance with applicable regulations. As required by law, the abatement contractor shall be a licensed professional.	Bureau of Engineering Contractor	Prior to demolition	Bureau of Engineering	Asbestos survey	Ongoing	Department of Building and Safety and SCAQMD

Mitigation Measure	Responsible Party	Implementation Phase	Monitoring Party	Monitoring Activity	Monitoring Period/ Frequency	Outside Agency Coordination
Transportation and Traffic						
TRANS-1: Implement comprehensive traffic demand management (TDM) and transit connectivity strategies. The applicant is proposing to implement comprehensive TDM and transit connectivity strategies in order to reduce additional project vehicle trips that would minimize traffic related impacts of the project. The TDM plan will promote the City's policies through strategies that reduce vehicular use by project employees and other users of the site (e.g. visitors) during peak periods to include transit and pedestrian friendly amenities such as safe and walkable sidewalks. It should be noted that a preliminary TDM and transit connectivity plan would need to be submitted to LADOT for approval prior to the issuance of the project's first building permit, and a final TDM plan must be prepared and approved by LADOT prior to the issuance of the project's first certificate of occupancy. The goals of these plans would need to be identified in the final TDM plan or site design. **Site Improvements** - The design and operation of the site to the extent feasible shall be designed into the project to emphasize: • A bicycle, transit, and pedestrian friendly environment. • Preferential loading and unloading for carpools, high occupancy vehicles (HOV), and taxis makes it more convenient and attractive to passengers. • Wayfinding signage guides that direct people to different elements of a site. • Carpool and vanpool parking shall be closest to the entrance of a building or on the first floor of a garage or structure to reward participants. • Bicycle parking shall be convenient, plentiful, well lit and secure.	Bureau of Engineering	Prior to project operation	Los Angeles Department of Transportation	Check that TDM is implemented	Once at completion of construction and prior to project operation	Los Angeles Department of Transportation

Mitigation Measure	Responsible Party	Implementation Phase	Monitoring Party	Monitoring Activity	Monitoring Period/ Frequency	Outside Agency Coordination
• Shower and locker facilities are an important part of the decision for an employee to bike to work. • Enhanced pedestrian and bicycle pathways for convenient, direct and secure connections. • Provision of a self-service bicycle repair area and shared tools for employees. • Coordinate with LADOT to provide space for a future Integrated Mobility Hub (see TRANS-2) It must be emphasized that integrating non-auto oriented improvements into the heart of the site rather than off to the side or in a remote corner are paramount to their success. Parking for bicycles shall be convenient and near the front door to facilities and be plentiful and well lit. **CarSharing and Short Term Car Rental** – Provide on demand access to a fleet of cars for short duration or unexpected trips and provide a minimum of five spaces for a shared car program. These programs reduce the need for individual to own a car or perhaps a second one. They would enhance the transit-oriented nature of the project because it would allow individuals working that an automobile is available with relative ease for those trips where transit or other modes are impractical. These programs save costs to individuals and businesses and could reduce the parking demand of the project. **Bike Sharing** – Provide a bike-sharing program. With bike sharing, individuals have access to a shared fleet of bicycles on an as-needed basis. It provides a good alternative to autos and because the regional bus fleet and rail systems are bike accessible, it provides a link to transit on both ends of a trip. An added benefit is reduced emissions due to fewer vehicle trips. **Transportation Coordinator** – Provide a transportation coordinator (TC), which is a permanent on-site staff position assigned to administer the requirements of a TDM program.						

Mitigation Measure	Responsible Party	Implementation Phase	Monitoring Party	Monitoring Activity	Monitoring Period/ Frequency	Outside Agency Coordination
Under this strategy, a transportation management association (TMA) shall be formed onsite or the project could become a part of an existing TMA in the area that would help in promoting awareness of the available TDM strategies and creating Transportation Management Plans (TMP) for the employees and patrons of the site. **Transportation Information Center** – Provide a Transportation Information Center (TIC), which is a centrally located commuter information center where both the employees and visitors can obtain information regarding commute programs, and individuals could obtain real-time information for planning travel without using an automobile. Strategically placed kiosks can provide trip planning and real time bus and train arrival information for users. Providing real-time transit information allows users to know exactly when the next bus or train will arrive and is an important tool in enhancing transit system connectivity. **Transit, Bike and Walk Promotions and Information Materials** – This shall include a commuter information packet (CIP), a commuter benefits brochure that contains complete information about various transportation benefits available to individuals, transportation/transit options, HOV programs and other elements that may be available. The CIP shall be written in multiple languages such as English, Spanish, and Chinese. The CIP shall be distributed to tenant employees, other building workers and occupants and at promotional events. **Tenant Participation** – Under this strategy, the transportation coordinator shall facilitate tenant and employee awareness and participation in the TMP by distributing the information to tenants at least once each year. **Carpooling and Rideshare Matching Opportunities** – This strategy shall coordinate ridesharing programs among various building tenants and their employees, provide ride-match						

Mitigation Measure	Responsible Party	Implementation Phase	Monitoring Party	Monitoring Activity	Monitoring Period/ Frequency	Outside Agency Coordination
services within the building or engage other ride-match facilitators (such as its tenants) to provide this service. It could be applied two different ways. One method is to make available "on the spot" ridesharing. This strategy maximizes trip flexibility for the individual because they do not need to make long-term plans and commitments. There are a number of internet-based programs that could be used to match the mobility needs of travelers with drivers. The more traditional method would be to have the TMA provide an online daily and/or long-term commute ride-matching service to match interested patrons with carpools and vanpools. The rideshare matching services could also be extended to other employers in close proximity to the project site. **Guaranteed Ride Home Program** – This strategy provides a guaranteed ride home program for (occupants/employees) who use a commute mode other than driving. Employers may establish their own program or contract this service with a public agency or private contractor. **Transit Pass Sales** – Under this strategy employers or a central management operator can contract with the Metro to become authorized to directly sell transit passes to their on-site employees. In addition they could provide transportation subsidies to building occupants/employees who commute via non-motorized or non-single occupancy vehicle modes. **Commuter Benefits** – This strategy, pursuant to Internal Revenue Code Section 132 (f), states that employers should arrange pre-tax dollar transit commute expense accounts to provide transportation fringe benefits to eligible employees. **Flexible/Alternative Work Schedules and Telecommuting Programs** – With this strategy, employers allow employees to work flexible and alternative work schedules so that their arrival and						

Mitigation Measure	Responsible Party	Implementation Phase	Monitoring Party	Monitoring Activity	Monitoring Period/ Frequency	Outside Agency Coordination
departure to the site varies to reduce trips during peak periods. Telecommuting eliminates any trips to the site since the employee would be working off-site. **Expanded DASH Service** – Provide additional service and/or capacity to the DASH downtown system via new routes to the project site. Contributions could be in the form of the purchase of new DASH vehicles or subsidy of service for a fixed period of time. **Taxi Services** – Provide taxi services. Taxis provide on-demand mobility for short and medium length trips. Expanding the City's "hail-a-taxi" demonstration program to the project site and surrounding area would provide convenient mobility alternatives for unscheduled or quick trips. In addition, taxis could and should be equipped to accept regional transit fare cards such as Metro TAP smart card technology. A single method of fare payment would greatly enhance non-auto oriented trip choices. Taxi services can also complement the guaranteed ride home program.						
TRANS-2: LADOT has been awarded grant funds to implement shared-vehicle stations within Downtown Los Angeles. This program, known as the Integrated Mobility Hubs project, would provide secure bike parking and a fleet of shared bikes and cars in an attempt to enhance urban mobility and serve as an extension of the current transportation network. The program can provide a form of "on-demand" transportation supplying Downtown-area users with a convenient and reliable option for one or more of the legs of their commute while being environmentally friendly and furthering greenhouse gas emission reduction goals. For many, transit use is not often the most convenient choice because station endpoints are often beyond desirable walking distances to a traveler's final destination. Integrated mobility hubs	Bureau of Engineering	Construction	Bureau of Engineering	Check for Mobility Hub and bicycle facilities	Once	Los Angeles Department of Transportation, Metro

Mitigation Measure	Responsible Party	Implementation Phase	Monitoring Party	Monitoring Activity	Monitoring Period/ Frequency	Outside Agency Coordination
provide an opportunity to customize the first and last mile experience by providing the end-user with vehicle options that would meet their particular trip needs for that day. Providing more first or last mile mobility choices can lead to increased use of public transit and introduce new transit riders. Given the project's close proximity to Union Station, the Metro Gold Line Little Tokyo/Arts District station and several Metro bus stops, the project location is well suited for increased use of public transit by occupants of the project. To support the goals of the project's TDM plan and to expand the City's program, the project shall coordinate with LADOT to provide space for a Mobility Hub in a convenient location within or near the project site. The project can also potentially provide on-site parking spaces for the shared-car component of the Mobility Hubs program. The project shall also provide space that would accommodate bicycle parking, bicycle lockers, and shared bicycles. LADOT is currently working on an operating plan and assessment study for the Mobility Hubs project that will include specific sites, designs and blueprints for Mobility Hub stations. The results of this study will assist in determining the appropriate location and space needed to accommodate a Mobility Hub at the project site.						
TRANS-3: The project shall provide a pedestrian friendly environment through sidewalk pavement reconstruction/improvements, and improved amenities such as landscaping and shading, particularly along the sidewalks.	Bureau of Engineering Contractor	Preconstruction/ Construction	Bureau of Engineering	Pedestrian improvements	Ongoing	Los Angeles Department of Transportation
TRANS-4: The project shall contribute a one-time mixed-fee of $250,000 to be deposited into the City's Bicycle Plan Trust Fund. These funds would be used by LADOT, in coordination with the Department of City Planning and Council District 14, to implement bicycle improvements within the Downtown area. However, improvements within	Bureau of Engineering	Preconstruction	Bureau of Engineering	Contribution of fee	Once	Los Angeles Department of Transportation

Mitigation Measure	Responsible Party	Implementation Phase	Monitoring Party	Monitoring Activity	Monitoring Period/ Frequency	Outside Agency Coordination
Downtown that are consistent with the City's complete streets and smart growth policies would also be eligible expenses utilizing these funds.						
TRANS-5: Upgrade traffic signals at seven study intersections and three adjacent locations. As described in Section 4.8.3.1 of the Draft EIR, Methodology, under the Traffic Signal Updates, if traffic signal upgrades are proposed as a mitigation to offset the significant traffic impacts of a development project, LADOT may require that not only the impacted intersections, but also any intersections in the immediate vicinity as determined by LADOT, be upgraded by the project to qualify for the intersection V/C reduction of 0.01. In order to mitigate the significant impacts at the study intersections, traffic signal upgrades are recommended at the following study intersections and at locations adjacent to the study intersections. <u>Affected Study Intersections</u> • Judge John Aiso Street and Temple Street (2070 controller upgrade and installation of system loops on all approaches) • 1st Street and Judge John Aiso Street/San Pedro Street (2070 controller upgrade and installation of system loops on all approaches) <u>Non-Affected Study Intersections</u> • 1st Street and Central Avenue (2070 controller upgrade and installation of system loops on all approaches) • 2nd Street and San Pedro Street (2070 controller upgrade and installation of system loops on all approaches) • 2nd Street and Central Avenue (2070 controller upgrade and installation of system loops on all approaches) • 2nd Street and Alameda Street (2070 controller upgrade and installation of system loops on all approaches)	Bureau of Engineering	Post-Construction	Bureau of Engineering	Traffic signal updates	Once	Los Angeles Department of Transportation

Mitigation Measure	Responsible Party	Implementation Phase	Monitoring Party	Monitoring Activity	Monitoring Period/ Frequency	Outside Agency Coordination
• 3rd Street and Los Angeles Street (2070 controller upgrade only) <u>Non-Study Intersections/Locations</u> • 1st Street and Hill Street (2070 controller upgrade only) • 1st Street between San Pedro Street and Central Avenue (2070 controller upgrade only) • 3rd Street and Alameda Street (2070 controller upgrade only)						

Chapter 5
List of Preparers

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APPENDICES

Appendix A Water Supply Assessment

Los Angeles Department of Water & Power

RESOLUTION NO. _____

BOARD LETTER APPROVAL

JAMES B. McDANIEL
Senior Assistant General Manager-Water System

MARCIE L. EDWARDS
General Manager

DATE: April 24, 2014

SUBJECT: Water Supply Assessment (WSA) for the Los Angeles Street Civic Building Project (Proposed Project)

SUMMARY

The purpose of this WSA is to meet the requirements of the California State Water Code Sections 10910-10915. Governing body of each public water system is required to make a determination on WSAs for major projects. This WSA is for the Proposed Project located within the Central City Community Plan of the City of Los Angeles (City). LADWP staff determined the maximum increase in the water demand for Proposed Project is 111 acre-feet per year (AFY) and believes this total additional water demand can be met.

City Council approval is not required.

Project Name:	The Los Angeles Street Civic Building Project
Project Lead Agency:	City of Los Angeles Department of Public Works, Bureau of Engineering (LABOE)
Project Applicant:	LABOE
Project General Scope:	The Proposed Project site area is approximately 2.87- acres, and consists of the development of the existing, currently vacant Parker Center building into useable administrative space for the City of Los Angeles. Several project alternatives are being considered by the Applicant, including: Alternative One - Rehabilitation of the existing Parker Center building; Alternative Two -Demolition of the north jail of Parker Center, construction of new expansion building in its place and rehabilitation of the remaining portions of the existing building; and Alternative Three - Full demolition of Parker Center building and construction of a new building with office space.
Project Site Address/Boundaries:	The Proposed Project site is generally bounded by East Temple Street to the north, East First Street to the south, Judge John Aiso Street to the east, and North Los Angeles Street to the west.
Council Districts:	District 14 Councilmember - José Huizar
Total New Water Demand: (Less Conservation Savings, and Existing Uses)	Maximum of 111 AFY

Abbreviations: du - dwelling unit, sq ft - square feet

RECOMMENDATION

It is recommended that the Board of Water and Power Commissioners (Board) adopt the attached Resolution authorizing the WSA for Proposed Project.

ALTERNATIVES CONSIDERED

LADWP is required by state law, as set forth in California State Water Code Sections 10910-10915, to prepare this WSA for the Proposed Project. There are no other alternatives.

FINANCIAL INFORMATION

LABOE paid $10,000 and was invoiced for $7,000 to cover LADWP expenses for preparation of this WSA.

BACKGROUND

WSAs are prepared in conformance with California law and City ordinances to ensure proposed projects that utilize water resources are consistent with the City's conservation goals and long-term water supply availability, as detailed in the Water System's 2010 Urban Water Management Plan (UWMP).The 2010 UWMP is the water supply planning document for the City and is prepared by LADWP.

The City's Water Efficiency Requirements Ordinance No. 180822, effective on December 2009, 2013 California Plumbing Code, effective on January 1, 2014, 2013 California Green Building Code (CALGreen), effective on January 1, 2014, 2014 Los Angeles Plumbing Code, effective on January 1, 2014, and 2014 Los Angeles Green Building Code, effective on January 1, 2014, require the use of numerous conservation measures, which for this development yielded a savings of approximately 14 AFY.

Each WSA performed by LADWP is carefully evaluated within the context of the 2010 UWMP and current conditions, such as restrictions on State Water Project (SWP) pumping from the Sacramento-San Joaquin Delta (Delta) imposed by a Federal Court. The Metropolitan Water District of Southern River California (MWD), from whom the City purchases its SWP and Colorado River water supplies, has also been actively developing plans and making efforts to provide additional water supply reliability for the entire Southern California region. LADWP coordinates closely with MWD to ensure implementation of MWD's water resource development plans.

Part of MWD's planning effort is the implementation of its Integrated Water Resources Plan (IRP) and Regional Urban Water Management Plan (RUWMP), which are designed to address potential reductions in water supply due to the effects of variable hydrologic conditions and regulatory restrictions on exports from the Delta. A set of resource options was developed by MWD based on the feasibility of various supply actions. These resource options focus on six main areas: conservation, Colorado River transactions, near-term Delta actions, SWP transactions, groundwater recovery, and

local resource development.

The Board adopted Shortage Year Rates and the City Council implemented Phase III restrictions of the Water Conservation Ordinance (Ordinance), both of which became effective June 1, 2009. Phase II restrictions were implemented in August 2010, and are still in effect.

Projected Water Use and Conservation

On October 29, 2012, LABOE, lead agency for the Proposed Project, requested LADWP perform a WSA. Based on information obtained from LABOE, the project site area is approximately 2.87 acres, and the Proposed Project consists of the development of the existing, currently vacant Parker Center building into useable administrative space for the City. Several project alternatives are being considered by the Applicant, including: Alternative One - Rehabilitation of the existing Parker Center building; Alternative Two - Demolition of the north jail of Parker Center, construction of new expansion building in its place and rehabilitation of the remaining portions of the existing building; and Alternative Three - Full demolition of Parker Center building and construction of a new building with office space. The Proposed Project site is generally bounded by East Temple Street to the north, East First Street to the south, Judge John Aiso Street to the east, and North Los Angeles Street to the west.

LADWP staff performed the water demand analysis for all three alternatives in this WSA, and determined the maximum increase in the water demand for the Proposed Project is 111 AFY.

LADWP staff recommended implementation of additional voluntary water conservation measures to maximize the potential water-use efficiency for the Proposed Project. Recommended voluntary conservation measures are in addition to those required by City's current codes and ordinances. Based on LADWP staff recommendations, the Applicant has voluntarily committed to implement the following additional measures that are beyond those required by law:

- Showerheads – no more than one showerhead per stall
- Rotating Sprinkler Nozzles for Landscape Irrigation – 0.5 gallons per minute
- Weather Based Irrigation Controller
- Drought Tolerant Plants
- Cooling Tower Conductivity Controllers or Cooling Tower pH Conductivity Controllers
- Water-Saving Pool Filter
- Leak Detection System for swimming pools and Jacuzzi
- Proper Hydro-zoning (groups plants with similar water requirements together)
- Zoned Irrigation
- Landscaping Contouring to minimize precipitation runoff
- Weather Conserving turf will be used

A written commitment of the Proposed Project's planned voluntary water conservation measures was submitted by the Applicant and is attached with the WSA in Appendix B. With the addition of these voluntary water conservation measures the maximum total additional water demand is approximately 111 AFY.

Applicant has also committed to comply with the City's Low Impact Development Ordinance (City Ordinance No. 181899) and to implement Best Management Practices that have stormwater recharge or reuse benefits.

LADWP has met with LABOE and the City's Department of Building and Safety (Building and Safety) staff to discuss voluntary commitments made by developers as part of WSA. These two City departments have confirmed the voluntary measures committed to by developers as part of WSA will be incorporated as requirements for both LABOE's approval and Building and Safety's review and approval of projects.

Anticipated 111 acre-feet of the maximum total additional annual water demand from the Proposed Project falls within the UWMP's projected water supplies for normal, single-dry, and multiple-dry years through the year 2035, and falls within the UWMP's 25-year water demand growth projection. Therefore, the Proposed Project is consistent with LADWP's 2010 UWMP.

ENVIRONMENTAL DETERMINATION

In accordance with the California Environmental Quality Act (CEQA), it has been determined that this WSA is exempt from further requirements pursuant to the General Exemption described in CEQA Guideline Section 15268.

CITY ATTORNEY

The Office of the City Attorney reviewed and approved the Resolution as to form and legality.

ATTACHMENTS

- Resolution
- Water Supply Assessment

RESOLUTION NO. 014 207

WHEREAS, on October 29, 2012, the City of Los Angeles (City) Department of Public Works, Bureau of Engineering (LABOE), requested the Los Angeles Department of Water and Power (LADWP) to conduct a Water Supply Assessment (WSA) for the Los Angeles Street Civic Building Project (Proposed Project) pursuant to California Water Code Sections 10910-10915; and

WHEREAS, Proposed Project will redevelop an approximately 2.87-acre site area of public facilities and commercial land uses within the Central City Community Plan area of the City for public facilities and commercial land uses; and

WHEREAS, LABOE identified three development alternatives under the Proposed Project; and

WHEREAS, LADWP has prepared a WSA for the Proposed Project in compliance with California Water Code Sections 10910-10915; and

WHEREAS, LADWP staff performed water demand analysis for the three alternatives, and determined the maximum net increase in total water demand for the Proposed Project is 111 acre-feet per year; and

WHEREAS, LABOE has agreed to implement additional conservation measures, as described in the WSA, that are in addition to those required by law; and

WHEREAS, Proposed Project is located in the service area of LADWP's water supply system, and LADWP would serve the area of the Proposed Project development; and

WHEREAS, LADWP anticipates that its projected water supplies available during normal, single-dry, and multiple-dry water years as included in the 25-year projection contained in its Urban Water Management Plan can accommodate the projected maximum water demand associated with the Proposed Project, in addition to the existing and planned future demands on LADWP; and

WHEREAS, the Board of Water and Power Commissioners (Board) adopted Shortage Year Rates for water service effective June 1, 2009. The Board finds that the price signals contained in the Shortage Year Rates have resulted in reduced Los Angeles City-wide demands sufficient to meet demand projections.

NOW, THEREFORE, BE IT RESOLVED, that the Board finds that LADWP can provide sufficient domestic water supplies to the Proposed Project area and approves the WSA prepared for the Proposed Project, now on file with the Secretary of the Board, and directs that the WSA and a certified copy of this Resolution be transmitted to LABOE.

BE IT FURTHER RESOLVED, that the Board finds that LADWP's total projected water supplies available during normal, single dry, and multiple dry water years during a 20-year projection will meet the projected water demands associated with the Proposed Project in addition to existing and planned future uses (including agricultural and industrial uses) over the twenty-year horizon.

I HEREBY CERTIFY that the foregoing is a full, true, and correct copy of a Resolution adopted by the Board of Water and Power Commissioners of the City of Los Angeles at its meeting held MAY 20 2014

APPROVED AS TO FORM AND LEGALITY
MICHAEL N. FEUER, CITY ATTORNEY

APR 25 2014

BY _____
TINA SHIM
DEPUTY CITY ATTORNEY

Barbara E. Moseley
Secretary

WATER SUPPLY ASSESSMENT

FOR THE LOS ANGELES STREET CIVIC BUILDING PROJECT

Prepared by:
Water Resources Section

May 20, 2014

Table of Contents

Table of Contents 2

Introduction 4

Findings 4

Project Description 5

Project Water Demand Estimate 6

Water Demand Forecast 11

LADWP 2010 Urban Water Management Plan (UWMP) 11

Conservation Strategies 12

Long-Term Strategies 14

Water Supplies 18

Los Angeles Aqueducts 18

Groundwater 20

Metropolitan Water District of Southern California (MWD) 21

Secondary Sources and Other Considerations 26

Rates 26

Findings 27

References

California Department of Water Resources California's Groundwater Bulletin 118 Update 2003

Upper Los Angeles River Area Watermaster Report, Dated May 2006

City of Los Angeles Department of Water and Power Urban Water Management Plan Year 2010

MWD Integrated Water Resources Plan 2010 Update

MWD's 2010 Regional Urban Water Management Plan

California Code of Regulations Title 23. Waters, Division 2. Department of Water Resources, Chapter 2.7. Model Water Efficient Landscape Ordinance

City of Los Angeles Department of Public Works, Bureau of Sanitation Sewer Generation Rates Table

Appendices

A. The City of Los Angeles Department of Public Works, Bureau of Engineering letter, Request for Water Supply Assessment, Received on October 29, 2012, and Scope Confirmation e-mail dated March 20, 2014

B. Water Conservation Commitment Letter

C. Project Location Maps

D. Groundwater Pumping Right Judgments 76

E. Water Supply Assessment Provisions – California Water Code Section 10910-10915

F. Metropolitan Water District of Southern California (Appendix A)

G. Water Supply Assessment Checklist

Introduction

Proposed major projects subject to certain requirements in the California Water Code Sections 10910-10915 require that the city or county identify any public water system that may supply water to the Los Angeles Street Civic Building Project (Proposed Project) and request the public water system to provide a water supply assessment (WSA). WSA is a determination by the water supplier that the demands associated with the Proposed Project were included in its most recently adopted UWMP showing that there is an adequate 20-year water supply.

The City of Los Angeles (City) Department of Public Works, Bureau of Engineering (LABOE), serving as the lead agency as prescribed by the California Environmental Quality Act (CEQA) for Proposed Project, has identified the Los Angeles Department of Water and Power (LADWP) as the public water system that will supply water. In response to LABOE's request for a WSA, LADWP has performed the assessment contained herein.

LADWP has served the City a safe and reliable water supply for over a century. Over time, the City's water supplies have evolved from primarily local groundwater to predominantly imported supplies. Today, the City relies on over 85 percent of its water from imported sources. As such, LADWP has taken an active role in regional and statewide water management. The sustainability of Los Angeles' local water supplies are dependent on the City's ability to maximize water conservation, increase recycled water-use, expand stormwater capture and accomplish other local water resource goals.

This WSA is prepared to meet the applicable requirements of state law as set forth in California State Water Code Sections 10910-10915. Significant references and data for this WSA are from the City's 25-year water resource plan, entitled LADWP 2010 UWMP. 2010 UWMP is incorporated by reference and is available for review through LADWP's Web site at www.ladwp.com.

Findings

Proposed Project is estimated to increase the total water demand within the site by maximum of 111 acre-feet (AF) annually based on review of information submitted by the LABOE. LABOE (Applicant) has committed to implement additional water-use efficiency measures that are beyond those required by current law.

LADWP's WSA finds adequate water supplies will be available to meet the total additional maximum water demand of 111 AF annually for Proposed Project. LADWP anticipates the projected water demand from Proposed Project can be met during normal, single-dry, and multiple-dry water years, in addition to the existing and planned future demands on LADWP.

This WSA approval addresses the City's long-term water supply and demand forecasts to accommodate Proposed Project, and is not an approval for water service connection nor determination of adequate distribution infrastructure and capacity to serve Proposed

Project. A separate request shall be made to LADWP requesting an evaluation of water service connection for Proposed Project.

Basis for approving WSAs for developments is LADWP's UWMP. LADWP's water demand forecast as contained in UWMP uses long-term demographic projection such as land use, population, and employment. The California Urban Water Management Planning Act requires water suppliers to develop a UWMP every five years to identify short-term and long-term water resources management measures to meet growing water demands during normal, single-dry, and multiple-dry years.

The LADWP Board of Water and Power Commissioners adopted Shortage Year Rates and the City Council implemented Phase III restrictions of the Water Conservation Ordinance (Ordinance), both of which became effective June 1, 2009. Phase II restrictions were implemented in August 2010 and remain in effect today. Current implementation of Shortage Year Rates and higher phases of the Ordinance has resulted in reducing the total customer water usage, on average, by approximately 16.8 percent for the months of June 2009 through March 2014.

Anticipated water demand from Proposed Project falls within the UWMP's projected water supplies for normal, single-dry, and multiple-dry years through the year 2035 and is within the UWMP's 25-year water demand growth projection. Therefore, Proposed Project's WSA can be approved based on the fact that Proposed Project's water need falls within the scope of the UWMP's projected increase in citywide water demands, while anticipating multi-dry year water supply conditions occurring at the same time.

Project Description

The following project information was obtained from LABOE's WSA Request Letter and the scope confirmation e-mail (Appendix A):

Project Name:	Los Angeles Street Civic Building Project
Lead Agency:	LABOE
Planning Community:	Central City

Proposed Project will develop the existing, currently vacant Parker Center building into useable administrative space for the City. Proposed Project site is generally bounded by East Temple Street to the north, East First Street to the south, Judge John Aiso Street to the east, and North Los Angeles Street to the west.

There are currently three alternatives under consideration. Alternative One of Proposed Project would involve rehabilitation of the existing Parker Center building. This alternative would include seismic improvements, conversion of portions of the building into City Department offices, commercial space, associated parking, and other improvements to bring the building up to city and state regulations. The existing Parker Center building consists of 319,048 gross square-feet (sq ft) and this alternative would provide approximately 161,831 sq ft of office space. Estimated net additional water demand for Alternative One is 38 acre-feet per year (AFY).

Alternative Two of Proposed Project would result in demolition of the north jail of Parker Center and would construct a new expansion building in its place. The remaining portions of the Parker Center building would receive the same rehabilitation treatment as described for Alternative One. The resulting building would be an approximate 522,355 gross sq ft building providing approximately 323,434 sq ft of office space. Estimated net additional water demand for Alternative Two is 82 AFY.

Alternative Three of Proposed Project would result in the full demolition of the Parker Center building and construction of a new approximately 753,730 gross sq ft building with approximately 564,230 sq ft of office space. Estimated net additional water demand for Alternative Three is 111 AFY.

LADWP staff performed the water demand analysis for all three alternatives in this WSA, and determined the maximum increase in the water demand for Proposed Project is 111 AFY.

Proposed Project is generally consistent with the Land Use designations of the Los Angeles General Plan, Central City Community Plan. This WSA will no longer be valid if modifications to Proposed Project require a substantial increase in water demand for Proposed Project. A revised WSA may then be required, which will need to be requested by LABOE.

Project Water Demand Estimate

Projected total water demand increase for Proposed Project is estimated to be maximum of 111 AF annually which includes annual water conservation. Savings due to water conservation required by ordinances are approximately 14 AFY for Proposed Project.

Tables I-1, I-2 and I-3 show a breakdown of current and proposed uses for Alternatives One, Two and Three, respectively, and the corresponding estimated volume of water usage with the implementation of the conservation measures for the Proposed Project. Types of use were derived from the WSA request letter and the scope confirmation e-mail in Appendix A.

Table II shows additional water conservation based on conservation measures committed to by LABOE for Alternatives One, Two and Three (Appendix B).

TABLE I-1

Los Angeles Street Civic Building Project- Alternative One

Calculated Total Additional Water Demand

Proposed Use[1]	Quantity	Unit	Water Use Factor[2] (gpd/unit)	Base Demand (gpd)	Water Efficiency Requirements Ordinance Savings[3] (gpd)	Proposed Water Demand (gpd)	Proposed Water Demand (af/y)
Office	161,831	sf	0.12	19,420			
Childcare	30	child	9.00	270			
Retail	5,000	sf	0.025	125			
Restaurant-Full Service (Indoor Service)	167	seat	30.00	5,010			
Total				24,825	3,407	21,418	23.99
Parking[4]	20.0	thousand sf	0.658	13	0	13	0.01
Cooling Towers[5]	800	ton	18.64	14,913	2,762	12,151	13.61
Proposed Water Demand Total						**33,582**	**38**
Less Existing to be Removed Total[6]						0	0
Less Additional Conservation[7]						0	0
Total Additional Water Demand =						**33,582 gpd**	**38 af/y**

[1] Provided by LABOE in the Request for WSA letter and Scope Confirmation e-mail. See Appendix A.

[2] Proposed indoor water uses are based on 2012 City of Los Angeles Department of Public Works, Bureau of Sanitation (BOS) Sewer Generation Rates table available at http://www.lacitysan.org/fmd/pdf/sfcfeerates.pdf.

[3] Proposed development land uses will conform to Water-Efficiency Requirements Ordinance No. 180822, 2013 California Plumbing Code, 2013 California Green Building Code (CALGreen), 2014 Los Angeles Plumbing Code, and 2014 Los Angeles Green Building Code.

[4] Parking water uses: Based on BOS Sewer Generation Rates table, and 12 times/yr cleaning assumption.

[5] Operating hours of 12 hours/day, 7 days/week assumed at 60 percent of chiller capacity.

[6] The existing demand was derived from average of the last five years of water meter readings for the existing facility and the extent of proposed demolition of approximately 0 sf.

[7] Water conservation due to additional conservation commitments agreed by LABOE. See Table II.

Abbreviations: gpd - gallons per day sf - square feet af/y - acre feet per year

TABLE I-2

Los Angeles Street Civic Building Project- Alternative Two

Calculated Total Additional Water Demand

Proposed Use[1]	Quantity	Unit	Water Use Factor[2] (gpd/unit)	Base Demand (gpd)	Water Efficiency Requirements Ordinance Savings[3] (gpd)	Proposed Water Demand (gpd)	Proposed Water Demand (af/y)
Office	323,434	sf	0.12	38,812			
Childcare	30	child	9.00	270			
Retail	5,000	sf	0.025	125			
Restaurant-Full Service (Indoor Service)	544	seat	30.00	16,320			
Lobby	23,637	sf	0.05	1,182			
Total				56,709	4,670	52,039	58.30
Parking[4]	138.8	thousand sf	0.658	91	0	91	0.10
Cooling Towers[5]	1,400	ton	18.64	26,098	4,833	21,265	23.82
Landscaping[6]	17,100	sf		1,215	350	865	0.97
Proposed Water Demand Total						**74,260**	**83**
Less Existing to be Removed Total[7]						-924	-1
Less Additional Conservation[8]						0	0
Total Additional Water Demand =						**73,336 gpd**	**82 af/y**

[1] Provided by LABOE in the Request for WSA letter and Scope Confirmation e-mail. See Appendix A.

[2] Proposed indoor water uses are based on 2012 City of Los Angeles Department of Public Works, Bureau of Sanitation (BOS) Sewer Generation Rates table available at http://www.lacitysan.org/fmd/pdf/sfcfeerates.pdf.

[3] Proposed development land uses will conform to Water-Efficiency Requirements Ordinance No. 180822, 2013 California Plumbing Code, 2013 California Green Building Code (CALGreen), 2014 Los Angeles Plumbing Code, and 2014 Los Angeles Green Building Code.

[4] Parking water uses: Based on BOS Sewer Generation Rates table, and 12 times/yr cleaning assumption.

[5] Operating hours of 12 hours/day, 7 days/week assumed at 60 percent of chiller capacity.

[6] Landscaping water-use is estimated by Landscape Water Management Program v1.4 developed by Irrigation Training and Research Center of California Polytechnic State University, San Luis Obispo.

[7] The existing demand was derived from average of the last five years of water meter readings for the existing facility and the extent of proposed demolition of approximately 58,800 sf.

[8] Water conservation due to additional conservation commitments agreed by LABOE. See Table II.

Abbreviations: gpd - gallons per day sf - square feet af/y - acre feet per year

TABLE I-3

Los Angeles Street Civic Building Project- Alternative Three

Calculated Total Additional Water Demand

Proposed Use[1]	Quantity	Unit	Water Use Factor[2] (gpd/unit)	Base Demand (gpd)	Water Efficiency Requirements Ordinance Savings[3] (gpd)	Proposed Water Demand (gpd)	Proposed Water Demand (af/y)
Office	564,230	sf	0.12	67,708			
Childcare	40	child	9.00	360			
Auditorium	472	seat	3.00	1,416			
Retail	4,985	sf	0.025	125			
Restaurant-Full Service (Indoor Service)	167	seat	30.00	5,010			
Lobby	9,240	sf	0.05	462			
Total				75,080	4,590	70,490	78.96
Parking[4]	472.0	thousand sf	0.658	311	0	311	0.35
Cooling Towers[5]	2,000	ton	18.64	37,282	6,904	30,378	34.03
Landscaping[6]	62,170	sf		4,421	1,274	3,147	3.52
Proposed Water Demand Total						**104,326**	**117**
Less Existing to be Removed Total[7]						-5,135	-6
Less Additional Conservation[8]						0	0
Total Additional Water Demand =						**99,191 gpd**	**111 af/y**

[1] Provided by LABOE in the Request for WSA letter and Scope Confirmation e-mail. See Appendix A.

[2] Proposed indoor water uses are based on 2012 City of Los Angeles Department of Public Works, Bureau of Sanitation (BOS) Sewer Generation Rates table available at http://www.lacitysan.org/fmd/pdf/sfcfeerates.pdf.

[3] Proposed development land uses will conform to Water-Efficiency Requirements Ordinance No. 180822, 2013 California Plumbing Code, 2013 California Green Building Code (CALGreen), 2014 Los Angeles Plumbing Code, and 2014 Los Angeles Green Building Code.

[4] Parking water uses: Based on BOS Sewer Generation Rates table, and 12 times/yr cleaning assumption.

[5] Operating hours of 12 hours/day, 7 days/week assumed at 60 percent of chiller capacity.

[6] Landscaping water-use is estimated by Landscape Water Management Program v1.4 developed by Irrigation Training and Research Center of California Polytechnic State University, San Luis Obispo.

[7] The existing demand was derived from average of the last five years of water meter readings for the existing facility and proposed full demolition.

[8] Water conservation due to additional conservation commitments agreed by LABOE. See Table II.

Abbreviations: gpd - gallons per day sf - square feet af/y - acre feet per year

TABLE II Los Angeles Street Civic Building Project- Alternatives One, Two and Three Additional Water Conservation
Conservation Measures[1]
Showerheads – no more than one showerhead per stall
Rotating Sprinkler Nozzles for Landscape Irrigation – 0.5 gallons per minute
Weather-Based Irrigation Controller
Drought Tolerant Plants
Cooling Tower Conductivity Controllers or Cooling Tower pH Conductivity Controllers
Water-Saving Pool Filter
Leak Detection System for swimming pools and Jacuzzi
Proper Hydro-zoning (groups plants with similar water requirements together)
Zoned Irrigation
Landscaping Contouring to minimize precipitation runoff
Weather Conserving turf will be used

[1] Water conservation measures agreed to by LABOE. See Appendix B.

Water Demand Forecast

2010 UWMP projects yearly water demand to reach 641,622 AF by year 2035 with passive and active water conservation, or an increase of 15 percent from year 2010 actual water demand. Water demand projections in five-year increments through 2035 are available in UWMP for each of the major customer classes single-family, multifamily, commercial/governmental, and industrial. Demographic data from the Southern California Association of Government's 2008 Regional Transportation Plan as well as billing data for each major customer class, weather, conservation, price of water, personal income, family size, economy, and drought conservation effect were factors used in forecasting future water demand growth.

UWMP used a modified unit approach to develop its service area-wide water demand projections. This methodology does not rely on individual development demands to determine area-wide growth. Rather, the growth in water-use for the entire service area was considered in developing long-term water projections for the City through the year 2035.

UWMP is updated every five years as required by California law. This process entails, among other requirements, an update of water supply and water demand projections for water agencies.

Efforts are underway to increase use of recycled water, expand capture of local stormwater runoff, and expand LADWP's water conservation programs to decrease reliance on purchased imported water for future demand. The City plans to meet all future increases in water demand through a combination of local water supply development.

Collaboration between LADWP and MWD is critical in ensuring that the City's anticipated water demands are incorporated into the development of MWD's long-term Integrated Water Resources Plan (IRP). MWD's IRP directs a continuous regional effort to develop regional water resources involving all of MWD's member agencies including the City. Successful implementation of MWD's IRP has resulted in reliable supplemental water supplies for the City from MWD.

State law further regulates distribution of water in extreme dry weather conditions. Section 350-354 of the California Water Code states that when a governing body of a distributor of a public water supply declares a water shortage emergency within its service area, water will be allocated to meet needs for domestic use, sanitation, fire protection, and other priorities. This will be done equitably and without discrimination between customers using water for the same purpose(s).

LADWP – 2010 UWMP

The California Urban Water Management Planning Act (first effective on January 1, 1984) requires every urban water supplier prepare and adopt an UWMP every five years. The main goal of UWMP is to forecast future water demands and water supplies under

average and dry year conditions, identify future water supply projects such as recycled water, provide a summary of water conservation best management practices (BMP), and provide a single and multi-dry year management strategy.[1]

LADWP's 2010 UWMP, available for reference through www.ladwp.com, serves two purposes: (1) achieve full compliance with requirements of California's Urban Water Management Planning Act; and (2) serve as a master plan for water supply and resources management consistent with the City's goals and policy objectives.[2]

A number of important changes have occurred since LADWP prepared its 2005 UWMP. First, LADWP developed more focused strategies in 2008 to address the water reliability issues associated with the lowest snowpack on record in the Sierra Nevada (in 2007), it was the driest year on record for the Los Angeles Basin. There was an increase in water required for environmental mitigation and enhancement in the Owens Valley, San Fernando Basin (SFB) groundwater contamination, and reduced imported water from the Sacramento-San Joaquin River Delta (Delta) due to a prolonged water shortage and environmental restrictions on Delta exports. Second, a number of new requirements were added to the Urban Water Management Planning Act, such as addressing California's new mandate of reducing per capita water use by 20 percent by year 2020. And third, LADWP developed a new water demand forecast based on a more rigorous analysis of water use trends and measurement of achieved water conservation.[3]

2010 UWMP projects a 15 percent lower water demand trend than what was projected in the previous 2005 UWMP. It outlines plans, as described below, to significantly increase water conservation and local water supplies by year 2035. This will allow the City to reduce water purchases from MWD by half.[4]

Conservation Strategies

Enforcing prohibited uses of water. Prohibited uses of water are intended to eliminate waste and increase awareness of the need to conserve water. In effect at all times, prohibited uses have been in place since the early 1990s. Under enforcement, failure to comply would be subject to penalties, which can range from a written warning for a first violation to monetary fines and water service shutoff for continued non-compliance.[5]

Expanding the prohibited uses of water. In August 2009, and again in August 2010, the City updated the Emergency Water Conservation Plan Ordinance (No. 181288) by clarifying prohibited uses of water, modifying certain water conservation requirements, and developing new phases of conservation depending on the severity of water shortages. Prohibited uses in effect at all times (Phase I) include:[6]

[1] *City of Los Angeles Department of Water and Power 2010 Urban Water Management Plan*, at 1.
[2] *Id.* at 2.
[3] *Id.* at 2.
[4] *Id.* at 25.
[5] *Id.* at 58-59.
[6] *Id.* at 54-55.

- Water leaks allowed to go unattended
- Outdoor irrigation between the hours of 9:00 a.m. to 4:00 p.m.
- Outdoor irrigation that results in excess water flow leaving the property
- Outdoor irrigation during rain events
- Outdoor irrigation with spray head sprinklers and bubblers for more than ten minutes per watering day per station
- Outdoor irrigation with standard rotors and multi-stream rotary heads for more than 15 minutes per cycle and up to 2 cycles per watering day per station
- Large landscape irrigation systems without automatic shutoff rain sensors
- Washing paved surfaces (sidewalks, walkways, driveways, or parking areas) unless using a LADWP-approved water conserving spray cleaning device
- Water for decorative fountains, ponds, or lakes unless the water is part of a recirculating system
- Installation of single-pass cooling systems in buildings requesting new water service
- Installation of non-recirculating systems in new commercial laundry facilities
- Installation of non-recirculating systems in new conveyor car washes
- Car washing with a hose, unless an automatic shut-off device is attached
- Water served to customers in eating establishments, unless requested
- Daily towel and linen service option must be offered to hotel and motel guests

Phase II of the Water Conservation Ordinance is also currently in effect, and prohibits landscape irrigation on days other than Monday, Wednesday, or Friday for odd-numbered street addresses and Tuesday, Thursday, or Sunday for even-numbers street addresses. Watering time for non-conserving nozzles (spra- head sprinklers and bubblers) is no more than eight minutes per watering day per station. These provisions do not apply to drip irrigation supplying water to a food source or to hand-held hose watering of vegetation, if the hose is equipped with a self-closing water shut-off device, which is allowed everyday during Phase II, except between the hours of 9:00 a.m. and 4:00 p.m.

On January 17, 2014, with California facing water shortfalls in the driest year in recorded state history, Governor Jerry Brown proclaimed a drought State of Emergency. Local urban water suppliers and municipalities are called upon to implement their local water shortage contingency plans immediately, and Californians are encouraged to reduce their water usage by 20 percent. For the City, Phase II restrictions of the Water Conservation Ordinance were implemented in August 2010, and remain in effect today.

Extending outreach efforts. Over the last several years, LADWP has expanded conservation outreach and education. Some activities to promote conservation include: increased communication with ratepayers through Twitter, Facebook, newspapers, radio, and television, among other types of media; outreach to Homeowner Associations and Neighborhood Councils; distribution of hotel towel door hangers and restaurant table tent cards; and ramping up marketing of expanded water conservation incentive and rebate programs.[7]

[7] *Id.* at 59-61.

Encouraging regional conservation measures. LADWP has worked with MWD to encourage all water agencies in the region to promote water conservation and adopt water conservation ordinances which include prohibited uses and enforcement.

Long-Term Strategies

1.0 Increase water conservation through reduction of outdoor water use and new technology.

Goal

Increase water conservation savings to 64,368 AFY by cutting back on outdoor water use, expanding rebates and incentives, improving water efficiency at public facilities, and enhancing savings through review of new developments.

Water Savings

64,368 AFY by 2035.

Action Plan

Conservation Rebates and Incentives: LADWP is continuing to expand rebates and incentives for homeowners and business owners to encourage them to purchase water-saving technology.[8] Rebate and incentive programs include the following: Commercial Rebate Program; Residential Rebate Program; and Technical Assistance Program. In addition, as part of the City's ongoing effort to encourage customers to adopt active water conservation measures (i.e., measures that can help customers conserve water on a daily basis) in their homes and businesses, LADWP continues to distribute water-saving bathroom and kitchen faucet aerators and shower heads free-of-charge. In an effort to reduce outdoor water-use, LADWP launched the California Friendly Landscape Incentive Program (Program) in 2009. This Program currently pays customers up to $2.00 per sq ft of turf removed and replaced with low water using plants, mulch, and permeable hardscapes or artificial turf.

Action by Public Agencies: LADWP assists City Departments and other public agencies in leveraging incentive funds to retrofit their facilities with water-efficient hardware. Significant accomplishments include the following highlights:

- In an effort to reduce water waste and identify areas of potential water conservation, LADWP provided on-site water audit training for Department of General Services (GSD) Plumbers, City of Los Angeles Department of Recreation and Parks (RAP) landscapers and Port of Los Angeles (POLA) staff, and conducted nearly 500 facility audits.

[8] *Id.* at 51

- In January 2009, a Memorandum of Understanding (MOU) was signed between LADWP and GSD to install 875 water-efficient urinals and 325 high-efficiency toilets in City facilities.
- Ten high-use City facilities have been retrofitted with water-efficient toilets, urinals, and faucets saving approximately 23 AFY. Locations include City Hall, City Hall East, Pershing Square, and LADWP headquarters.
- Utilizing a $3 million per year grant from LADWP, RAP installed 155 smart controllers at 67 parks, resulting in a savings of 12 percent of normal water usage. Additionally, this MOU has funded water-use efficiency improvements at 18 park facilities saving over 400 AFY.

Enhancing Conservation through Review of New Developments: LADWP will continue working with the City's Green Building Team to pursue desired changes in local codes and standards to promote water-efficiency in new construction projects and major building renovations. One of the significant accomplishments was the approval of the Water-Efficiency Requirements Ordinance No. 180822 by the City Council, which modifies the City Municipal Code to establish new requirements for water conservation in construction of new buildings, and the installation of new plumbing fixtures in existing buildings to minimize the effects of any water shortages on the customers of the City, effective December 1, 2009.[9] Water savings due to 2013 California Plumbing Code, effective on January 1, 2014, 2013 California Green Building Code (CALGreen), effective on January 1, 2014, 2014 Los Angeles Plumbing Code, effective on January 1, 2014, and 2014 Los Angeles Green Building Code, effective on January 1, 2014, were also estimated. For this development, the ordinances yielded a savings of approximately 14 AFY.

In addition, the City adopted Ordinance No. 181899, also known as the "Low Impact Development" Ordinance. Purpose of Ordinance No. 181899 includes rainwater harvesting and stormwater runoff management, water conservation, and recycled water reuse and gray water use. Ordinance No. 181899 was effective as of November 14, 2011.

2.0 Water Recycling

LADWP 2010 UWMP identifies the goal of delivering 59,000 AFY to off-set imported water. This will increase recycled water use in the City eight-fold—from the current one percent to eight percent annually. In order to achieve this goal, the City is taking the following steps:

Recycled Water Master Plan (RWMP): In 2012, LADWP completed a three-year RWMP. RWMP documents will guide near-term recycled water planning through 2035, as well as long-term recycled water planning for up to 50 years beyond the 2035 horizon. RWMP documents include an evaluation of recycling alternatives that integrate two strategies to increase recycling: groundwater replenishment (GWR) and non-potable reuse (NPR). NPR projects will increase recycled water

[9] *Id.* at 54.

deliveries to irrigation and industrial customers throughout the City. The GWR project will replenish SFB with advance treated purified recycled water.

Advance Treatment Pilot Studies: A critically important part of the GWR master planning process was to operate a pilot project consisting of different purification technologies using the actual treated wastewater from the City's Donald C. Tillman (DCT) Water Reclamation Plant (WRP). Purpose of the pilot project was to test alternative source waters available at DCT WRP and evaluate the effectiveness of advanced water purification (AWP) technologies on those specific waters. Testing results demonstrated that the proposed AWP processes provide exceptional water quality that is safe for GWR.

GWR Environmental Documentation: Environmental documentation for the GWR project was initiated in 2012.

Harbor Refineries Pipeline Project: Of the project's 40,400-feet of recycled water piping, approximately 85 percent has already been installed in the Harbor Area that will convey recycled water to large industrial and irrigation customers. This project is anticipated to be completed in June 2014.

Recycled Water Outreach: The City developed the RWMP documents with input from stakeholders through ongoing outreach activities beginning in 2009, including the Recycled Water Advisory Group (RWAG), Recycled Water Forums for the general public, elected official briefings, outreach to Kindergarten-12 students, and presentations to Neighborhood Councils and community groups. RWAG is made up of approximately 60 stakeholders, representing neighborhood councils, environmental groups, business organizations, civic groups, and other interests. They provide the City with input and ideas related to water recycling. RWAG has participated in a series of workshops, facility tours, and update sessions, and continues to provide insightful feedback to the City as projects are implemented.

3.0 Enhancing Stormwater Capture

City's goal is to increase groundwater recharge by expanding and improving stormwater spreading basins, retrofitting large stormwater capture/flood control dams and completing other large-scale projects through cooperative partnerships with the Los Angeles County Flood Control District and other agencies. LADWP is moving forward with several stormwater capture projects with the goal of increasing long-term groundwater recharge by a minimum of 25,000 AFY.[10] Following are the large-scale projects that are expected to be completed or in construction within the next several years:

Tujunga Spreading Grounds Enhancement Project: This project proposes to deepen the spreading basins, increase their storage capacity, replace the existing diversion structure with two diversion structures, and add remote automation of the operating structures.[11]

[10] *Id.* at 143.
[11] *Id* at 145.

- Schedule: Planning and design 2011-13; construction in 2014-16.
- Budget: Total project cost is $25 million (LADWP funded).
- Resources: Los Angeles County Flood Control District will be the project manager.
- Potential Water Savings: The recharge capacity will be increased from 5,200 to 18,600 AFY of stormwater.

Pacoima Spreading Grounds Enhancement Project: This project proposes to deepen the spreading basins, increase their storage capacity, replace the existing diversion structure, and add remote automation of the operating structures.[12]

- Schedule: Planning and design 2012-14; construction in 2014-16.
- Budget: Total project cost is $30 million (LADWP funding $15 million)
- Resources: Los Angeles County Flood Control District will be the project manager.
- Potential Water Savings: Recharge capacity will be increased from 6,900 to 17,400 AFY of stormwater.

4.0 Accelerating Clean-Up of the SFB

City's goal is to clean up the contaminated SFB to expand groundwater storage and the ability to fully utilize the City's groundwater supplies. Result will be a reduction of imported water supply of up to 87,000 AFY – LADWP's annual allocation of San Fernando Valley groundwater supplies.[13] LADWP will also work to ensure that SFB remains a consistent, stable and reliable resource for years to come. The following actions are proposed to achieve this goal:

Work with Regulatory Agencies and Governmental Officials: LADWP will continue to encourage the Environmental Protection Agency (EPA) to develop a long-term, comprehensive solution for existing and emerging contamination issues in SFB. In addition to EPA, LADWP will work with the Los Angeles Regional Water Quality Control Board and the California Department of Toxic Substances Control to find and hold polluters accountable for cleaning up SFB.[14]

Groundwater System Improvement Study (GSIS): In February 2009, LADWP began a six-year, approximately $249.0-million GSIS in SFB that will provide vital information to evaluate the groundwater quality in SFB and recommend treatment options to maximize the utility of the groundwater supply.[15] As part of GSIS, LADWP is installing approximately 26 new monitoring wells in SFB, which will provide vital

[12] *Id* at 146.
[13] *Id.* at 125.
[14] *Id.* at 122.
[15] *Id.* at 126.

water quality information necessary for GSIS. Critical water supply picture in the region has forced LADWP to initiate a fast-tracked and ambitious undertaking to restore its lost groundwater production. This undertaking will also prepare LADWP to safely manage and extract water from future groundwater recharge efforts. LADWP is in the early stages of developing the Groundwater Treatment Complex (GTC) for SFB, with a design capacity of 122,900 AFY. Construction of the proposed GTC will greatly reduce LADWP's reliance on costly and diminishing imported water supplies, and will compliment LADWP's strategies for securing the City's future water supply through sustainable means. The anticipated in-service date for GTC is 2021.

Interim Wellhead Treatment: LADWP completed the installation of an interim treatment project for two wells in the Tujunga Wellfield in order to maintain groundwater pumping production. Capital cost of the project was approximately $7.5 million, and the approximate annual operation and maintenance cost is approximately $2 million.

Water Supplies

The Los Angeles Aqueducts (LAA), local groundwater, purchased water from MWD, and recycled water are the primary sources of water supplies for the City. Table III shows LADWP water supplies over the last ten years from these sources:

TABLE III
LADWP Water Supply

Calendar Year	Los Angeles Aqueducts	Local Groundwater	MWD	Recycled Water	Transfer, Spread, Spills, and Storage	Total
2004	203,190	75,696	391,678	1,774	-2,958	675,296
2005	376,394	57,623	184,605	1,401	3,140	616,883
2006	380,235	67,299	188,598	3,893	-1,336	641,361
2007	127,392	88,041	435,278	3,595	1,044	653,261
2008	148,407	64,604	429,170	7,048	1,664	647,565
2009	137,261	66,998	350,918	7,570	3,052	559,695
2010	251,126	68,346	203,745	6,900	-938	531,055
2011	357,752	49,915	119,381	7,708	-153	534,909
2012	166,858	57,784	325,439	5,965	3,386	552,660
2013	64,801	66,148	438,492	9,253	-2,404	581,098

Note: Units are in AF

Los Angeles Aqueducts

Snowmelt runoff from the Eastern Sierra Nevada Mountains is collected and conveyed to the City via LAA. LAA supplies come primarily from snowmelt and secondarily from groundwater pumping, and can fluctuate yearly due to the varying hydrologic conditions. In recent years, LAA supplies have been less than the historical average because of environmental restoration obligations in Mono and Inyo Counties.

The City holds water rights in the Eastern Sierra Nevada where LAA supplies originate. These supplies originate from both streams and from groundwater. In 1905, the City approved a bond measure for the purchase of land and water rights in the Owens River Valley. By 1913, the first LAA began its deliveries of water to the City primarily from surface water diversions from the Owens River and its tributaries. Historically, these supplies were augmented from time to time by groundwater extractions from beneath the lands that the City had purchased in the Owens Valley.

In 1940, the first LAA was extended north to deliver Mono Basin water to the City pursuant to water rights permits and licenses granted by the State Water Resources Control Board. In 1970, the second LAA was completed increasing total delivery capacity of the LAA system to approximately 561,000 AF per year. The second LAA was to be filled by completing Mono Basin diversions originally authorized in 1940, by a more effective use of water for agricultural purposes on City-owned lands in the Owens Valley and Mono Basin and by increased groundwater pumping from the City's lands in the Owens Valley.

In 1972, Inyo County filed a CEQA lawsuit challenging the City's groundwater pumping program for the Owens Valley. The lawsuit was finally ended in 1997, with the County of Inyo and the City entering into a long-term water agreement for the management of groundwater in the Owens Valley. The water agreement, entered as a judgment of the Superior Court in the County of Inyo (County of Inyo vs. City of Los Angeles, Superior Court No. 12908) outlines the management of the City's Owens Valley groundwater resources. As a result of this water agreement and subsequent MOU, LADWP has dedicated 37,000 AF of water annually for enhancement and mitigation projects throughout Owens Valley which includes the rewatering of 62 miles of the Lower Owens River. LADWP also provides approximately 80,000 AF of water annually for other uses in the Owens Valley such as irrigation, town water supplies, stockwater, wildlife and recreational purposes.

Further, in September 1994, by virtue of the public trust doctrine, the State Water Resources Control Board issued Decision 1631 which placed conditions on LADWP's water gathering activities from Mono Basin. LADWP currently export approximately 16,000 AF of water annually from Mono Basin. LADWP has implemented an extensive restoration and monitoring programs in Mono Basin to increase the level of Mono Lake and to improve stream conditions, fisheries and waterfowl habitats in Walker, Parker, Rush and Lee Vining Creeks. With reduced diversions from Mono Basin and favorable hydrologic conditions, Mono Lake's elevation has risen overtime. Once the elevation of Mono Basin reaches 6,391-feet above mean sea level, a moderate increase in water exports from Mono Basin will be permitted pursuant to the Decision 1631. Currently, up to 74,000 AF of water annually is being utilized for environmental restoration in Mono Basin.

In July 1998, LADWP and the Great Basin Unified Air Pollution Control District (GBUAPCD) entered into a Memorandum of Agreement to mitigate dust emissions from Owens Lake. As of December 31, 2008, LADWP mitigated dust emissions from 29.8 square-miles of Owens Lake in accordance with GBUAPCD's 2003 revised State Implementation Plan. As of April 1, 2010, LADWP mitigated an additional 9.2 square-miles in accordance with GBUAPCD's 2008 State Implementation Plan. Upon completion

of Phase 8 in October 2012, LADWP has mitigated dust emissions from a total of approximately 42 square-miles of Owens Lake requiring approximately 95,000 AF of water annually to sustain the dust mitigation program.

Average deliveries from the LAA system have been approximately 199,196 AF of water annually over the last five fiscal years. The average annual long-term LAA delivery over the next 25 years, using the 50-year average hydrology from FY 1956/57 to 2005/06, is expected to be approximately 254,000 AFY and gradually decline to 244,000 AFY due to projected climate change impacts.

Groundwater

San Fernando and Sylmar Basins are subject to the judgment in City of San Fernando vs. the City of Los Angeles. Pumping is reported to the court-appointed Upper Los Angeles River Area (ULARA) Watermaster. Central Basin is also subject to court Judgments. Pumping is reported to the California Department of Water Resources (DWR) who acts as Watermaster.

SFB is the largest of four basins within ULARA. The basin consists of 112,000-acres of land and comprises 91.2 percent of ULARA valley fill. LADWP has accumulated nearly 486,759 AF of stored water credits in SFB as of October 2011. This is water LADWP can withdraw from the basin during normal and dry years or in an emergency, in addition to LADWP's approximately 87,000 AF annual entitlement in the basin. Majority of LADWP's groundwater is extracted from SFB. Sylmar Basin is located in the northern part of ULARA, consisting of 5,600 acres and comprises 4.6 percent of ULARA valley fill. LADWP currently has an annual entitlement of 3,405 AF from Sylmar Basin.

Court decision on pumping rights in ULARA was implemented in a judgment on January 26, 1979. Enclosed with the assessment are copies of those pages from the judgment showing the entitlements (see Appendix D). Further information about ULARA is in ULARA Watermaster Report. The ULARA Watermaster report and some background information on the judgment are available for review at the office of ULARA Watermaster or on-line at www.ularawatermaster.com.

LADWP additionally has adjudicated rights to extract groundwater from the Central Basin. Annual entitlement to the Central Basin is 15,000 AF. See Appendix D for copies of relevant portions of the judgments. Complete judgments are available for review at DWR.

For the period of July 2012 to June 2013, LADWP extracted 50,550 AF, 1,952 AF, and 6,310 AF from the San Fernando, Sylmar, and Central Basins, respectively. LADWP plans to continue production from its groundwater basins in the coming years to offset reductions in imported supplies. However, extraction from the basins will be limited by water quality and overdraft protection. Both LADWP and DWR have programs in place to monitor wells to prevent overdrafting. LADWP's groundwater pumping practice is based on a "safe yield" operation. The objective, over a period of years, is to extract an amount of groundwater equal to the native and imported water that recharges the basin. Extractions by LADWP from the San Fernando, Sylmar, and Central Basins for the last available five years are shown on Table IV.

TABLE IV
Local Groundwater Basin Supply

Fiscal Year (July-June)	San Fernando	Sylmar	Central
2007-2008	57,060	4,046	12,207
2008-2009	49,106	576	11,937
2009-2010	62,218	2,998	11,766
2010-2011	44,029	225	5,099
2011-2012	50,244	1,330	9,486
2012-2013	50,550	1,952	6,310

Note: Units are in AF

Metropolitan Water District of Southern California (MWD)

MWD is the largest water wholesaler for domestic and municipal uses in Southern California. As one of 26 member agencies, LADWP purchases water from MWD in addition to the supplies from local groundwater and LAA. MWD imports a portion of its water supplies from Northern California through the State Water Project's (SWP) California Aqueduct and from the Colorado River through MWD's own Colorado River Aqueduct. LADWP will continue to rely on MWD to meet its current and future water needs.

In ongoing efforts to evaluate MWD's own import reliability, an assessment was done to address changes in demand and supply conditions, and to provide additional resource reserves to mitigate against uncertainties in demand projections and risks in implementing supply programs. All these efforts went into MWD's RUWMP.

All 26-member agencies have preferential rights to purchase water from MWD. Pursuant to Section 135 of the MWD Act, "Each member public agency shall have a preferential right to purchase from the district for distribution by such agency, or any public utility therein empowered by such agency for the purpose, for domestic and municipal uses within the agency a portion of the water served by the district which shall, from time to time, bear the same ratio to all of the water supply of the district as the total accumulation of amounts paid by such agency to the district on tax assessments and otherwise, excepting purchase of water, toward the capital cost and operating expense of the district's works shall bear to the total payments received by the district on account of tax assessments and otherwise, excepting purchase of water, toward such capital cost and operating expense." This is known as preferential rights. As of June 30, 2013, LADWP has a preferential right to purchase 20.22 percent of MWD's total water supply.

LADWP has worked with MWD in developing a plan for allocating water supplies during periods of shortage. On February 12, 2008, MWD Board adopted its Water Supply Allocation Plan. LADWP supported the adoption of this plan to acquire its dry weather condition supplies from MWD.

In response to the 2009 regulatory restrictions on water supplies from Northern California, MWD Board announced on April 14, 2009, that supply deliveries to the member agencies would be reduced by ten percent. Reduced supply allocation was to be effective from July 1, 2009 through June 30, 2010, but in April 2010, MWD Board approved an extension of the reduced supply allocation through June 30, 2011, primarily to restore the storage balances in MWD's groundwater and surface storage facilities.

On March 31, 2011, California Governor Jerry Brown declared an end to the statewide drought emergency that had been proclaimed earlier on February 27, 2009, by then-Governor of California Arnold Schwarzenegger. MWD's Board subsequently voted on April 12, 2011, to end implementation of the 2010/11 water supply allocation. In the same decision, MWD Board also voted to not implement a water supply allocation for 2011/12. These actions restored full imported water deliveries to member agencies without risk of allocation penalties effective April 2011.

As extremely dry conditions have persisted since 2012 and Californians are facing water supply shortages with 2014 projected to become driest year on record, Governor Brown proclaimed a drought State of Emergency on January 17, 2014.

MWD has also been developing plans and taking efforts to provide additional water supply reliability for the entire southern California region. LADWP coordinates closely with MWD to ensure implementation of these water resource development plans. MWD's long-term plans to meet its member agencies' growing reliability needs are through improvements to SWP as outlined in the Bay Delta Conservation Plan, water transfer programs, outdoor conservation measures, and development of additional local resources, such as recycling, brackish water desalination, and seawater desalination. These plans are contained in MWD's IRP and RUWMP, which can be found at www.mwdh2o.com. Additionally, MWD has more than 5.0 million AF of storage capacity available in reservoirs and banking/transfer programs, with approximately 2.37 million AF in storage, and that approximately 626 thousand AF in emergency storage as of January 1, 2014.

MWD established a policy objective for water supply reliability as part of its IRP. Policy objective is: Through the implementation of its IRP, MWD and its member agencies will have the full capability to meet full-service demands at the retail level at all times.

Recent Issues Related to the State Water Project

Federal Endangered Species Act (ESA) Litigation filed by several environmental interest groups in the United States District Court for the Eastern District of California alleged that existing biological opinions and incidental take statements inadequately analyzed impacts on listed species under Federal ESA. On May 25, 2007, Federal District Judge Wanger issued a decision on summary judgment finding the United States Fish and Wildlife Service's (USFWS) biological opinion for Delta smelt was invalid. On December 14, 2007, Judge Wanger issued his Interim Remedial Order requiring SWP and Central Valley Project operate according to certain specified criteria until a new biological opinion for the Delta smelt is issued. USFWS released the new biological opinion on December 15, 2008. Based on the Water Allocation Analysis released by DWR on December 19,

2008, which analyzed the biological opinion's effects on State Water Project operations, export restrictions under median hydrologic conditions reduce deliveries to MWD by approximately 500,000 acre-feet.

MWD and other impacted agencies and stakeholders filed separate lawsuits in federal district court challenging the biological opinion, which the federal court consolidated under the caption Delta Smelt Consolidated Cases. On December 14, 2010, Judge Wanger issued a decision on summary judgment finding that there were major scientific and legal flaws in the Delta smelt biological opinion and remanding the biological opinion to USFWS for reconsideration. The court's decision invalidates some of the restrictions on project operations contained in the Delta smelt biological opinion. On May 18, 2011, Judge Wanger issued a final decision amended judgment directing USFWS to complete a new draft biological opinion by October 1, 2011, and to complete a final biological opinion with environmental documentation by December 1, 2013. Later stipulations and orders changed the October 1, 2011 due date for a draft biological opinion to December 14, 2011, and changed the December 1, 2013 due date for the final biological opinion to December 1, 2014.

A draft biological opinion was issued on December 14, 2011.The draft biological opinion deferred specification of a reasonable and prudent alternative and an incidental take statement pending completion of environmental impact review under the National Environmental Policy Act (NEPA). Federal defendants and environmental intervenors appealed the final judgment invalidating the 2008 Delta smelt biological opinion to the United States Court of Appeals for the Ninth Circuit. State Water Project and Central Valley Project contractor plaintiffs, including MWD, cross-appealed from the final judgment. Those appeals and cross-appeals were argued on September 10, 2012. It is unknown when the court will issue a decision.

On May 25, 2010, the court granted the plaintiffs' request for preliminary injunction in the Consolidated Salmon Cases, restraining enforcement of two requirements under the salmon biological opinion that limit exported water during the spring months based on San Joaquin River flows into the Bay-Delta and reverse flows on the Old and Middle Rivers. Hearings on motions for summary judgment in the Consolidated Salmon Cases were held on December 16, 2010. On September 20, 2011, Judge Wanger issued a decision on summary judgment, finding that the salmon biological opinion was flawed, and that some but not all of the project restrictions in the biological opinion were arbitrary and capricious. On December 12, 2011, Judge O'Neill (assigned to this case following Judge Wanger's retirement) issued a final judgment in the Consolidated Salmon Cases. Final judgment remands the 2009 salmon biological opinion to the National Marine Fisheries Service, and directs that a new draft salmon biological opinion be issued by October 1, 2014, and that a final biological opinion be issued by February 1, 2016, after completion of environmental impact review under NEPA. Due date for the salmon biological opinion was later extended to February 1, 2017.

These events have highlighted the challenges that water suppliers throughout the state currently face regarding supplies from Delta.

For 2014, DWR initially approved on November 19, 2013, a five percent allocation for long-term SWP contractors. Five percent for MWD contracted water delivery amount is 95,575 AFY. On January 31, 2014, DWP reduced the 2014 SWP water allocation from five percent to zero percent. This decrease was due to the persistent dry conditions.

Delta Policy Legislation

In November 2009, State Legislature and then Governor Arnold Schwarzenegger passed the 2009 Comprehensive Water Package, which consisted of four policy bills and an $11.14 billion bond proposal designed to ensure a reliable water supply for California's future and to restore Delta and other ecologically sensitive areas. The "Water Bond" is subject to voter approval and is on the November 4, 2014, ballot. The Water Bond Measure was originally certified to be on the state's 2010 ballot. It was removed and placed on the 2012 ballot. California State Legislature, on July 5, 2012, approved a bill to take the measure off the 2012 ballot and put on the 2014 ballot.

Senate Bill (SB) X7-1 (Simitian) of the 2009 Water Package established the co-equal goals for Delta: to provide a more reliable water supply for California and to protect, restore, and enhance Delta ecosystem. SB X7-1 also established a framework to achieve co-equal goals for Delta by creating a new Delta governance structure - including the Delta Stewardship Council, Delta Conservancy; and Delta Protection Commission - laying out a process for determining the consistency of the Bay Delta Conservation Plan (BDCP) with co-equal goals.

Implementation of the four policy bills in the 2009 Water Package is currently underway, including the parallel development of the Delta Plan, a comprehensive, long-term management plan for Delta adopted by the Delta Stewardship Council, and BDCP, which will provide the basis for the issuance of endangered species permits for the operation of the State Water Project and Central Valley Project and for Delta conveyance improvements. The Delta Plan and associated Environmental Impact Report were released to the public in May 2013; the BDCP process is expected to conclude in 2014.

Responsibilities of entities created by the Delta Governance Bill are as follows:

- Delta Stewardship Council
  - Independent agency of the state composed of seven members with the responsibility to oversee and coordinate state agency actions within Delta.
  - Develop a Delta Plan that will include all state and federal Delta ecosystem, flood management, water supply, and local economic sustainability efforts and will serve as a guide for state and local agencies to ensure that their actions are consistent with their policies.
  - Develop Performance measures to assess the progress of achieving the goals of the Delta Plan.
  - Determine compliance with the Delta Plan and will serve as the appellate body in the event of disputes over the consistency of a project with the Delta Plan.
  - Ensure consistency of BDCP with the co-equal goals of water supply reliability and Delta restoration.

- Delta Conservancy
  - Eleven member entity with the responsibility to develop and adopt a strategic plan that will coordinate investments in Delta's natural and cultural resources.
  - Promote the economic vitality in the Delta through increased tourism and the promotion of Delta legacy communities.
  - Promote environmental education about, and the public use of, public lands in Delta.

- Delta Protection Commission
  - Reduce its membership from 23 to 15 and will continue to provide a forum for Delta residents to engage in decisions regarding actions to recognize and enhance the cultural, recreational, and agricultural resources of Delta.
  - Adopt an economic sustainability plan for Delta, which is to include flood protection recommendations to state and local agencies, and is to be included in the Delta Stewardship Council's Delta Plan.

- Delta Watermaster
  - Exercise authority of the State Water Resources Control Board and monitor and enforce orders as well as license and permit terms and conditions relating to water diversions in Delta.

- Delta Independent Science Board and Delta Science Program
  - Delta Independent Science Board will consist of no more than ten members and will provide oversight of the scientific research, monitoring, and assessment programs that support adaptive management of Delta.
  - Delta Science Program will be led by a Delta Stewardship Council appointed lead scientist, and will provide unbiased scientific information to inform decision-making in Delta.

In addition to the Delta Governance Bill, the proposed Water Bond would allocate funds for projects to assist in achieving BDCP's co-equal goal of maintaining and restoring the Delta ecosystem. BDCP will help to reduce the risk posed by seismic activities to water supplies from Delta, protect drinking water quality and help to alleviate conflicts between water management and environmental protection. BDCP success is crucial to providing long-term solutions in Delta and will help to improve and maximize SWP reliability, and consequently MWD's overall reliability. These statewide initiatives along with LADWP's local supply and efficiency programs will insure that LADWP is better prepared to deal with the natural variability of our local water supplies, by having more reliable access to supplemental water supplies purchases from MWD.

In response to these recent developments in Delta, MWD is engaged in planning processes that will identify local solutions that, when combined with the rest of its supply portfolio, will ensure a reliable long-term water supply for its member agencies. In the near-term, MWD will continue to rely on the plans and policies outlined in its RUWMP and IRP to address water supply shortages and interruptions (including potential shut downs of SWP pumps) to meet water demands. An in depth discussion on MWD is attached in Appendix F.

Secondary Sources and Other Considerations

Stormwater capture, water conservation, and recycling will play an increasing role in meeting future water demands. LADWP has implemented stormwater capture, conservation and recycling programs with efforts under way to further promote and increase the level of these programs. LADWP is committed to supply a higher percentage of the City's water demand through local water supply development.

Integrated planning has also filled an important role in developing secondary sources of supply for the City. It is generally true for large undertakings that a concerted effort with others who share a common goal will produce a higher degree of success. This is an approach that has been taken in southern California with overall water resources planning. The City works closely with MWD, BOS (wastewater agency), other regional water providers, and various stakeholder groups to develop and implement programs that reduce overall water use. The City has also pioneered community-based job programs to assist in conservation program implementation. While significantly assisting with program implementation, these community-based organizations also provide important social and economic benefits to neighborhoods.

Integrated resources planning is a process that is being used by many water and wastewater providers to meet their future needs in the most effective way possible, and with the greatest public support. The planning process differs from traditional planning processes in that it incorporates:

- Public stakeholders in an open, participatory process.
- Multiple objectives such as reliability, cost, water quality, environmental stewardship, and quality of life.
- Risk and uncertainty.
- Partnerships with other agencies, institutions, and non-governmental organizations.

Through integrated planning, not only water-use efficiency and recycling activities are maximized, but potential alternative supplies such as water transfers and stormwater reuse are considered and evaluated as part of the City's long-term water resources portfolio.

Rates

Capital costs to finance facilities for the delivery of water supply to LADWP's service area are supported through customer-billed water rates. The LADWP Board of Commissioners (Board) sets the rates subject to approval of the City Council by ordinance. Board is obligated by the City Charter to establish water rates and collect charges in an amount sufficient to service the water system indebtedness and to meet its expenses for operation and maintenance.

The water rate structure contains a Water Procurement Adjustment Factor under which the cost of purchased water from MWD is recovered, a Demand Side Management and Reclaimed Water Cost Adjustment Factor which recovers the cost of water conservation programs, and reclaimed water projects. In addition, the rate structure contains a Water Quality Improvement Adjustment Factor to recover expenditures to upgrade and equalize water quality throughout the City and to construct facilities to meet state and federal water quality standards, including the payment of debt service on bonds issued for such purposes.

Findings

Proposed Project is estimated to increase the total water demand within the site by maximum of 111 AF annually based on review of information submitted by LABOE.

The maximum of 111 AFY increase in the total water demand for Proposed Project falls within the available and projected water supplies for normal, single-dry, and multiple-dry years through the year 2035 as described in LADWP's UWMP. LADWP finds it will be able to meet the proposed water demand of the Proposed Project, as well as existing and planned future water demands of its service area.

WSA approval addresses the City's long-term water supply and demand forecasts to accommodate Proposed Project, and is not an approval for water service connection nor determination of adequate distribution infrastructure and capacity to serve Proposed Project. A separate request shall be made to LADWP requesting an evaluation of water service connection for Proposed Project.

Appendix A

City of Los Angeles Department of Public Works, Bureau of Engineering
Request for Water Supply Assessment

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GARY LEE MOORE, P.E.
CITY ENGINEER

1149 S. BROADWAY, SUITE 700
LOS ANGELES, CA 90015-2213

http://eng.lacity.org

DELON KWAN

OCT 29 2012

ANTONIO R. VILLARAIGOSA
MAYOR

October 18, 2012

Delon Kwan
Los Angeles Department of Water and Power
Water Resources Development
111 North Hope Street, Room 1460
Los Angeles, CA 90012

RE: Request for Water Supply Assessment for the Los Angeles Street Civic Building Project

Dear Mr. Kwan,

The City of Los Angeles Department of Public Works, Bureau of Engineering (LABOE) is the Lead Agency pursuant to the California Environmental Quality Act (CEQA), for the Environmental Impact Report (EIR) that is being prepared for the Los Angeles Street Civic Building Project (proposed project). The proposed project would reactivate the currently vacant Parker Center building by consolidating existing City of Los Angeles departments spread throughout the city into a single building on the Parker Center site. Three alternatives are under consideration, two of which, Alternatives B2 and B3 would result in more than 250,000 square feet of office space for city employees. For this reason, LABOE will need to comply with the water supply assessment requirements of the State Water Code (Section 10910-10915), pursuant to State CEQA Guidelines Section 15155(a)(1)(C). Therefore, we are requesting a water supply assessment from the Department of Water and Power (DWP) to determine the DWP's ability to meet the water demands of the proposed project. The following information is intended to aid the DWP in the preparation of the requested water supply assessment.

Project Setting and Location

The existing Parker Center building is located at 150 North Los Angeles Street, midblock on the block bounded by North Los Angeles Street to the west, East Temple Street to the north, Judge John Aiso Street to the east, and East 1st Street to the south, in Downtown Los Angeles. Major roadways near the project site include U.S. 101, approximately 0.2 mile to the north, Interstate 110 (I-110), approximately 0.9 mile to the west, and Interstate 5 (I-5), approximately 1 mile to the east. Los Angeles City Hall is located approximately 500 feet to the northwest and Los Angeles Union Station is

located approximately 0.3 mile to the northeast. Vehicle access to the project site is currently provided along Los Angeles Street and Judge John Aiso Street, with entrances to existing on-site parking lots on the west and east sides of the project site. The project site is located within the Little Tokyo neighborhood and is part of the Los Angeles General Plan, Central City Community Plan. The surrounding setting of the project site is urban in nature and built out with a variety of land uses in its near vicinity. In general, land uses surrounding the project site are public facilities consisting mostly of civic service offices and are zoned as such (PF-2D). In addition, commercially zoned (C4-2D) land uses are located on the parcel across Judge John Aiso Street, which supports restaurants, the Museum of Contemporary Art (MOCA), and the Japanese American National Museum.

Proposed Project

There are three potential alternatives that are under consideration for the Parker Center site:

Alternative B1: Rehabilitation of the existing Parker Center building. This alternative would include seismic improvements, conversion of portions of the building into City Department offices, commercial space, associated parking, and other improvements to bring the building up to city and state regulations. The existing Parker Center building consists of 319,048 gross square feet, and this alternative would provide approximately 161,831 square feet of office space, 10,000 square feet of retail space, and 2,500 square feet for a child care facility for a total usable square footage of 174,331 square feet. A parking garage containing 137 parking spaces would be provided. Upon completion, approximately 875 employees would be located at the building.

Alternative B2: This alternative would result in demolition of the north jail of Parker Center and would construct a new expansion building in its place. The remaining portions of the Parker Center building would receive the same rehabilitation treatment as described for Alternative B1. The resulting building would be an approximately 522,355 gross square-foot building, providing approximately 323,434 square feet of office space, approximately 14,565 square feet of retail space, and approximately 2,500 square feet for a child care facility. A parking garage containing approximately 328 parking spaces would also be constructed. Upon completion, approximately 1,775 employees would be located at the building.

Alternative B3: This alternative would result in the full demolition of the Parker Center building and construction of a new approximately 753,730 gross square-foot building, with approximately 564,230 square feet of office space, and approximately 20,170 square feet of space that would be used for retail, day care facilities, a health center, and auditorium space. A parking garage containing approximately 1,173 parking spaces would be constructed. Upon completion, approximately 2,945 employees would be located at the building.

Under each alternative, city department offices, parking facilities, a cafeteria, a childcare center, and retail space would be provided. The new or improved facility would support the City's sustainability initiatives by rehabilitating or constructing a building that meets the City's Green Building Code.

We look forward to working with DWP on the water supply assessment for the proposed project. If you have any questions or require additional information, please contact Paul Young at (213) 485-4776 or at paul.young@lacity.org.

Sincerely,

M. R. Bu

Mahmood Karimzadeh, AIA
Principal Architect
Architectural Division

MK\PY:ab
Q:\Admin\Typed Documents\2012\LA Street Civic Bldg. Req for Water Supply 10-18-12
cc: Denise Gardiner
Genevieve Fernandez
Paul Young

From: Paul Young
To: Tcharssov, Andrei
Cc: Kwan, Delon; Reza Bagherzadeh; Jerry Penrose
Subject: Re: Los Angeles Street Civic Building Project WSA - Scope Verification
Date: Thursday, March 20, 2014 10:17:48 AM

Hello Andre,

The City's EIR Team wanted to investigate adding more square footage to the option that proposed a new building on the property (Alternative B3). However, after running the data through the computer it was determined that the additional projected traffic loads would be too great. As a result, there are no changes to the items mentioned in your email.

Thank you,

Paul Young, Architect
Architectural Division
Bureau of Engineering | Department of Public Works
1149 S. Broadway, Room 830
Los Angeles, CA 90015
Mail Stop: 507
Office: (213) 485-4776 | Fax: (213) 485-4836
email: paul.young@lacity.org

Check out these sites and links! Go ahead, just click.

On Tue, Jan 14, 2014 at 1:56 PM, Tcharssov, Andrei <Andrei.Tcharssov@ladwp.com> wrote:

> Paul,
>
> This a reminder that haven't received the requested scope verification. Thanks.
>
> Andrei Tcharssov
>
> LADWP Water Resources Development
>
> 111 N. Hope Street, Room 1450
>
> Los Angeles, CA 90012
>
> (213) 367-2155

From: Tcharssov, Andrei
Sent: Tuesday, December 17, 2013 7:09 AM
To: paul.young@lacity.org
Cc: Kwan, Delon
Subject: RE: Los Angeles Street Civic Building Project WSA - Scope Verification

Paul,

I haven't heard from you regarding the scope verification, so I am resending the e-mail below for your action. Thanks.

Andrei Tcharssov

LADWP Water Resources Development

111 N. Hope Street, Room 1450

Los Angeles, CA 90012

(213) 367-2155

From: Tcharssov, Andrei
Sent: Wednesday, December 04, 2013 2:29 PM
To: paul.young@lacity.org
Cc: Kwan, Delon
Subject: Los Angeles Street Civic Building Project WSA - Scope Verification

Paul,

Please verify that the project's scope provided below for the Los Angeles Street Civic Building Project is final, complete and correct. The scope is based on your original request for WSA and all communications between LADWP and BOE to date. Please be advised that the scope is the basis for WSA water demand calculations and will be included, in part or in full, as an exhibit in the final WSA for the project. Let me know if there are any questions.

Please identify any issues with the scope below and feel free to make any comments. Thank you.

Attachment A

List of Additional Project Information Typically Requested by LADWP

Proposed Project:

There are three potential alternatives that are under consideration for the Parker Center Site:

Alternative B1: Rehabilitation of the existing Parker Center building. This alternative would include seismic improvements, conversion of portions of the building into City Department offices, commercial space, associated parking, and other improvements to bring the building up to city and state regulations. The existing Parker Center building consists of 319,048 gross square feet and this alternative would provide approximately 161,831 square feet of office space.

Alternative B2: This alternative would result in demolition of the north jail of Parker Center and would construct a new expansion building in its place. The remaining portions of the Parker Center building would receive the same rehabilitation treatment as described for Alternative B1. The resulting building would be an approximately 522,355 gross square-foot building providing approximately 323,434 square feet of office space.

Alternative B3: This alternative would result in the full demolition of the Parker Center building and construction of a new approximately 753,730 gross square-foot building with approximately 564,230 square feet of office space.

1. Please identify the developer of the project.

None at this time.

2. The exact project site area (sq ft).

Existing lot is approximately 125,125 SF.

3. Does this project comply with the existing Zoning designation and if a Zoning change is proposed, does it require a General Plan amendment?

Yes / No zoning change to current PF zone.

4. The exact square footage of landscape for the existing and proposed development.

Existing Landscape: 7,950 SF

Alternative 2 Landscape: 17,100 (Expansion) + 5450 (Existing) = 22,550 SF

Alternative 3 Landscape: 62,170 SF

5. Vicinity map and site plan.

See attachment.

6. The exact area of both structure and surface parking for the existing and proposed project (sq ft).

Existing Surface Parking: 20,000 SF

Existing Structure Parking: None

Alternative 2 Structure Parking: 138,820 SF

Alternative 2 Surface Parking: None

Alternative 3 Structure Parking: 452,036 SF

Alternative 3 Surface Parking: 20,000 SF

7. A detailed scope that distinguishes between retail, day care, health center, auditorium, and restaurant establishments, and provides the square footage and seat count of each establishment as applicable (please provide the detailed breakdown of different types of establishments in retail if the pertinent information is available).

Alternative 1 Retail: 5,000 SF

Alternative 1 Restaurant (Full Service Indoor): 5,000 SF with a seating capacity of approx. 167

Alternative 1 Daycare: 2,500 SF with approx. 30 children

Alternative 2 Retail: 5,000 SF

Alternative 2 Restaurant (Full Service Indoor): 16,315 SF with a seating capacity of approx. 544

Alternative 2 Daycare: 2,500 SF with approx. 30 children

Alternative 3 Retail: 4,985 SF

Alternative 3 Restaurant (Full Service Indoor): 4,985 SF with a seating capacity of approx. 167

Alternative 3 Auditorium Seat Count: 472 seats

Alternative 3 Daycare: 3,000 SF with approx. 40 children

8. The chiller capacity of the cooling towers (in tons), and the hours of service (12 hour of 24 hour) of both existing and proposed project (if the pertinent information is available).

Option 1: cooling tower chiller is 800 tons, operates 7am to 7pm

Option 2: cooling tower chiller is 1400 tons, operates 7am to 7pm

Option 3: cooling tower chiller is 2000 tons, operates 7am to 7pm

9. The dimensions (length x width x depth, or area x depth) of the existing and proposed swimming pool, spa (except if included in the health club).

The pool and health club have been removed from the project.

10. Identification of any common spaces in square feet for all the spaces to be developed (i.e. lobbies, meeting spaces, etc.) (if the pertinent information is available).

Alternative 2 Public Lobbies: 23,637 SF

Alternative 3 Public Lobbies: 9,240 SF

11. Proposed water fixture counts for each type facility.

Option 1

Toilets: 148

Urinals: 43

Showerheads: 36

Faucets (bath): 115

Faucets (kitchen): 21

Washers: 0

Dishwashers: 15

Option 2

Toilets: 253

Urinals: 71

Showerheads: 24

Faucets (bath): 154

Faucets (kitchen): 53

Washers: 0

Dishwashers: 37

Option 3

Toilets: 264

Urinals: 52

Showerheads: 2

Faucets (bath): 126

Faucets (kitchen): 36

Washers: 1

Dishwashers: 31

12. Provide water meter numbers and service addresses for all the existing structures that are going to be demolished (if this information is not available, we will need a detailed scope for existing to remain and existing to be demolished).

02653315, 02653316 and 96154925

13. Per the WSA request letter, Alternative 2 involves demolition of the north jail of Parker

Center. How much of the existing facility in terms of use type and area would be demolished?

Total Demolition: approximately 58,800 GSF

Utility Space Demo: 4,100 SF

Storage Space Demo: 17,500 SF

Office Space Demo: 3,000 SF

Andrei Tcharssov

LADWP Water Resources Development

111 N. Hope Street, Room 1450

Los Angeles, CA 90012

(213) 367-2155

----------Confidentiality Notice----------
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Appendix B

Water Conservation Commitment Letter

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ENGINEERING

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INTERIM CITY ENGINEER

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LOS ANGELES, CA 90015-2213

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2013

December 3, 2013

James McDaniel
Senior Assistant General Manager for Water Systems
Los Angeles Department of Water & Power
111 North Hope Street, Room 1455
Los Angeles, CA 90012-5701

WATER CONSERVATION COMMITMENTS FOR THE LOS ANGELES STREET CIVIC BUILDING ENVIRONMENTAL IMPACT REPORT (EIR) PROJECT

Dear Mr. McDaniel:

The City of Los Angles proposes to develop a City Administration Building at the site of the "Old Parker Center Building" located at 150 North Los Angeles Street. The project site, which encompasses approximately 125,000 square feet, is generally bounded by East Temple Street to the north, Judge John Aiso Street to the east, East First Street to the south, and North Los Angeles Street to the west. The proposed project has three alternatives to develop the existing property into useable administrative space for the City of Los Angeles.

"Alternative One" would redevelop the existing building and site. The interior building space would be adapted to contain approximately 5,000 square feet of retail space, approximately 5,000 square feet of restaurant uses, approximately 2,500 square feet of daycare, and approximately 162,000 square feet of office uses. Existing surface parking and landscaping would remain largely intact at approximately 20,000 square feet of surface parking and 8,000 square feet of landscape.

"Alternative Two" would demolish approximately 58,800 square feet of the "Old Parker Center Building" and construct a new building of approximately 262,000 gross square feet over the demolished footprint. The new and old buildings would contain approximately 5,000 square feet of retail space, approximately 9,000 square feet of restaurant uses, approximately 2,500 square feet of daycare, approximately 314,000 square feet of office uses, and approximately 24,000 square feet of public lobbies. Site work would include approximately 5,500 square feet of existing landscape, 17,000 square feet of new landscaping, and no surface parking.

12/12/13 c: David R. Pettijohn
FYI
JBM:vf

"Alternative Three" would demolish the "Old Parker Center Building" that collectively comprises approximately 319,000 square feet of gross building area. In its place, a new building of approximately 754,000 gross square feet would be constructed. This new building would contain approximately 5,500 square feet of retail space, approximately 14,500 square feet of restaurant uses, approximately 3,000 square feet of daycare, approximately 556,000 square feet of office uses, and approximately 9,000 square feet of public lobbies. Site work would include approximately 62,000 square feet of new landscape and no surface parking.

The City of Los Angeles' is committed to implement its policy that future water needs shall be met by expanding water recycling and conservation. The City uses the following water conservation measures for the project:

- Showerheads – no more than one showerhead per stall
- Rotating Sprinkler Nozzles for Landscape Irrigation – 0.5 gallons per minute
- Weather Based Irrigation Controller
- Drought Tolerant Plants – 20% of total landscaping
- Cooling Tower Conductivity Controllers or Cooling Tower pH Conductivity Controllers
- Water-Saving Pool Filter
- Leak Detection System for swimming pools and Jacuzzi
- Proper Hydro-zoning/ (groups plants with similar water requirements together)
- Zoned Irrigation
- Landscaping Contouring to minimize precipitation runoff
- Water Conserving turf will be used. At this stage of the project the size of the space and the species factor of the turf cannot be determined until the design commences.

The City has also committed to comply with the Low Impact Development (LID) & Standard Urban Stormwater Mitigation Plan (SUSMP) and to implement Best Management Practices that have stormwater recharge or reuse benefits for the project as applicable:

- Infiltration Basin (drainage area of 5-50 acres) – captures first-flush stormwater, removes particulate pollutants and some soluble pollutants, and contributes toward recharging groundwater.
- Infiltration Trench (drainage area of less than 5 acres) – similar to infiltration basin but used for smaller drainage areas to capture an infiltrate rainwater.
- Catch Basin Insert - a device that can be inserted into an existing catch basin design to provide some level of runoff contaminant removal.
- Catch Basin Screens
- Pervious Pavements – captures runoff by allowing stormwater to pass through the pavement surface and then infiltrate into the groundwater basin.
- Cistern - captures stormwater runoff as it comes down through the roof gutter system.
- Grey Water Systems
- Primary (On-Site) Waste Water Treatment Systems

The following items are required by the Water Efficiency Requirements Ordinance, City Ordinance No.180822, effective Dec. 1, 2009, and the City acknowledges compliance with the following requirements for the Project:

- High Efficiency Toilets – maximum flush volume not to exceed 1.28 gallons of water (effective) per flush
- High Efficiency Urinals – maximum flush volume not to exceed 0.125 gallons of water per flush
- Faucets:
  - Private Use Lavatory Faucets – 1.5 gallons per minute
  - Public Use Lavatory Faucets – 0.5 gallons per minute, self-closing
  - Pre-rinse Spray Valve installed in Commercial Kitchens – 1.6 gallons per minute
  - All Other Indoor Faucets – 2.2 gallons per minute
- Low-flow Showerheads – maximum flow rate not to exceed 2.0 gallons per minute, except emergency shower heads for health or safety purposes.
- All Installed Dishwashers must be Energy Star Rated and in compliance with the following:
  - The maximum water use for high efficiency commercial dishwashers shall be in accordance with the following table:

Type	**High-Temperature Maximum gallons per rack**	**Chemical-Maximum gallons per rack**
Conveyer	0.70	0.62
Door	0.95	1.16
Undercounter	0.90	0.98

  - The maximum water use per washing cycle for high efficiency domestic dishwashers shall be 5.8 gallons.
- All cooling towers must operate at a minimum of 5.5 cycles of concentration
- Single-pass cooling systems are strictly prohibited for use in devices, processes, or equipment installed in commercial, industrial, or multi-family residential buildings. This prohibition shall not apply to devices, processes, or equipment installed for health or safety purposes that cannot operate safely otherwise.

Information on plumbing fixture, appliance counts, estimates for the Project have not yet been determined at the EIR stage of Project development.

Should you have any questions, please contact Paul Young at (213) 485-4776.

Sincerely,

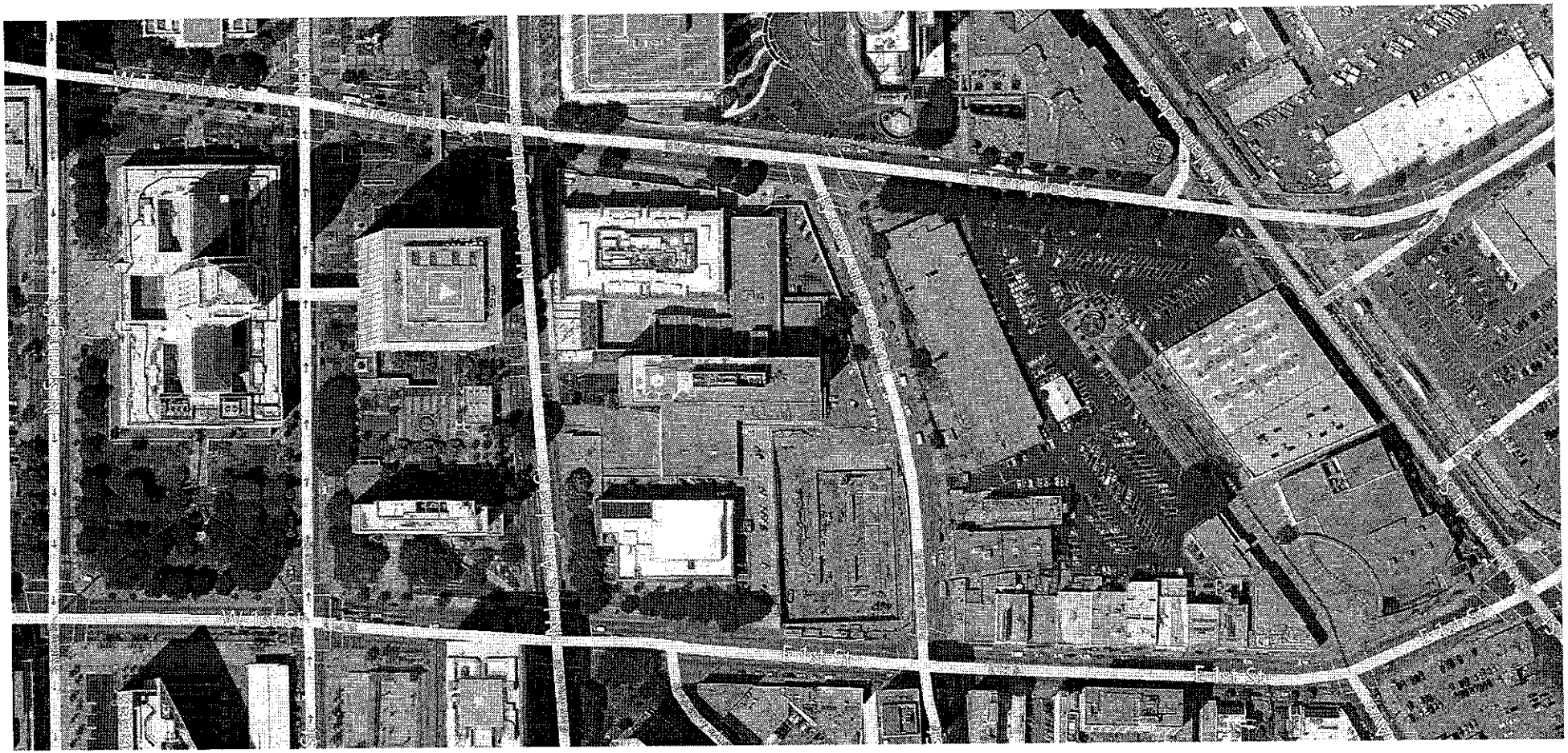
Mahmood Karimzadeh, AIA
Principal Architect
Architectural Division

MK/RB/PY/:ab
Q:\Admin\Typed Documents\2013\DWP Commitment Ltr on BOE 12-03-2013

cc: Paul Young, Bureau of Engineering
Reza Bagherzadeh, Bureau of Engineering

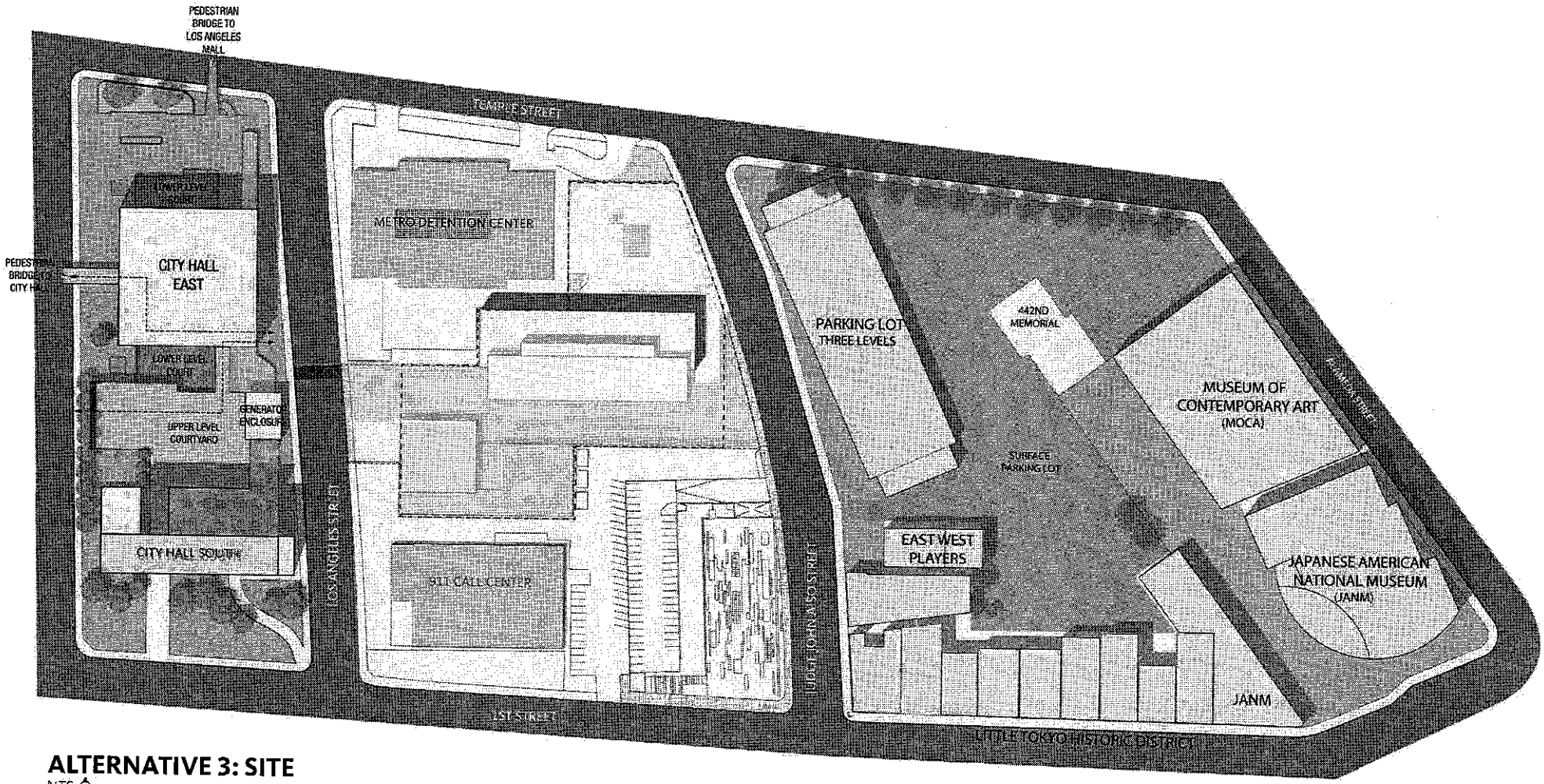
Appendix C

Project Location Maps



EXISTING VICINITY MAP

N.T.S.



ALTERNATIVE 3: SITE

NTS

--- MAXIMUM BOUNDARY ZONE OF WHERE POTENTIAL BUILDING(S) CAN SIT

Appendix D

Adjudicated Groundwater Basin Judgments

- San Fernando Basin – Judgment No. 650079
- Sylmar Basin – Judgment No. 650079
- Central Basin – Judgment No, 786656

SUPERIOR COURT OF THE STATE OF CALIFORNIA

FOR THE COUNTY OF LOS ANGELES

THE CITY OF LOS ANGELES, Plaintiff, vs. CITY OF SAN FERNANDO, ET AL. Defendants.	No. 650079 JUDGMENT

There follows by consecutive paging Recitals (page 1), Definitions and List of Attachments (pages 1 to 6), Designation of Parties (page 6), Declaration re Geology and Hydrology (pages 6 to 12), Declaration of Rights (pages 12 to 21), Injunctions (pages 21 to 22), Continuing Jurisdiction (page 23), Watermaster (pages 23 to 29), Physical Solution (pages 29 to 34), and Miscellaneous Provisions (pages 34 to 35), and Attachments (pages 36 to 46). Each and all of said several parts constitute a single integrated Judgment herein.

4.2.3 Separate Ground Water Basins. The physical and geologic characteristics of each of the ground water basins, Eagle rock, Sylmar, Verdugo and San Fernando, cause impediments to inter-basin ground water flow whereby there is created separate underground reservoirs. Each of said basins contains a common source of water supply to parties extracting ground water from each of said basins. The amount of underflow from Sylmar Basin, Verdugo Basin and Eagle Rock Basin to San Fernando Basin is relatively small, and on the average has been approximately 540 acre feet per year from the Sylmar Basin; 80 acre feet per year from Verdugo Basin; and 50 acre feet per year from Eagle Rock Basin. Each has physiographic, geologic and hydrologic differences, one from the other, and each meets the hydrologic definition of "basin". The extractions of water in the respective basins affect the other water users within that basin but do not significantly or materially affect the ground water levels in any of the other basins. The underground reservoirs of Eagle Rock, Verdugo and Sylmar Basins are independent of one another and of the San Fernando Basin.

4.2.4 Safe Yield and Native Safe Yield. The safe yield and native safe yield, stated in acre feet, of the three largest basins for the year 1964-65 was as follows:

Basin	Safe Yield	Native Safe Yield
San Fernando	90,680	43,660
Sylmar	6,210	3,850
Verdugo	7,150	3,590

The safe yield of Eagle Rock Basin is derived from imported water delivered by Los Angeles. There is no measurable native safe yield.

4.2.5 Separate Basins -- Separate Rights. The rights of the parties to extract ground water within ULARA are separate and distinct as within each of the several ground water basins within said watershed.

4.2.6 Hydrologic Condition of Basins. The several basins within ULARA are in varying hydrologic conditions, which result in different legal consequences.

4.2.6.1 San Fernando Basin. The first full year of overdraft in San Fernando Basin was 1954-55. It remained in overdraft continuously until 1968, when an injunction

LAGERLOF, SENICAL, DRESCHER & SWIFT
301 North Lake Avenue, 10th Floor
Pasadena, California 91101
(818) 793-9400 or (213) 385-4345

SUPERIOR COURT OF THE STATE OF CALIFORNIA

FOR THE COUNTY OF LOS ANGELES

CENTRAL AND WEST BASIN WATER REPLENISHMENT DISTRICT, etc., Plaintiff, v. CHARLES E. ADAMS, et al., Defendants. CITY OF LAKEWOOD, a municipal corporation, Cross-Complaint, v. CHARLES E. ADAMS, et al., Cross-Defendants.	No. 786,656 SECOND AMENDED JUDGMENT (Declaring and establishing water rights in Central Basin and enjoining extractions therefrom in excess of specified quantities.)

The above-entitled matter duly and regularly came on for trial in Department 73 of the above-entitled Court (having been transferred thereto from Department 75 by order of the presiding Judge), before the Honorable Edmund M. Moor, specially assigned Judge, on May 17, 1965, at 10:00 a.m. Plaintiff was represented by its attorneys BEWLEY, KNOOP,

of the close of the water year ending September 30, 1978 in accordance with the Watermaster Reports on file with this Court and the records of the Plaintiff. This tabulation does not take into account additions or subtractions from any Allowed Pumping Allocation of a producer for the 1978-79 water year, nor other adjustments not representing change in fee title to water rights, such as leases of water rights, nor does it include the names of lessees of landowners where the lessees are exercising the water rights. The exercise of all water rights is subject, however, to the provisions of this Judgment is hereinafter contained. All of said rights are of the same legal force and effect and are without priority with reference to each other. Each party whose name is hereinafter set forth in the tabulation set forth in Appendix "2" of this judgment, and after whose name there appears under the column "Total Water Right" the figure "0" owns no rights to extract any ground water from Central Basin, and has no right to extract any ground water from Central Basin.

(b) Defendant The City of Los Angeles is the owner of the right to extract fifteen thousand (15,000) acre feet per annum of ground water from Central Basin. Defendant Department of Water and Power of the City of Los Angeles has no right to extract ground water from Central Basin except insofar as it has the right, power, duty or obligation on behalf of defendant The City of Los Angeles to exercise the water rights in Central Basin of defendant The City of Los Angeles. The exercise of said rights are subject, however, to the provisions of this judgment hereafter contained, including but not limited to, sharing with other parties in any subsequent decreases or increases in the quantity of extractions permitted from Central Basin, pursuant to continuing jurisdiction of the Court, on the basis that fifteen thousand (15,000) acre feet bears to the Allowed Pumping Allocations of the other parties.

(c) No party to this action is the owner of or has any right to extract ground water from Central Basin except as herein affirmatively determined.

2. Parties Enjoined as Regards Quantities of Extractions.

Appendix E

Water Supply Assessment Provisions
California Water Code Section 10910-10915

WATER CODE
SECTION 10910-10915

10910. (a) Any city or county that determines that a project, as defined in Section 10912, is subject to the California Environmental Quality Act (Division 13 (commencing with Section 21000) of the Public Resources Code) under Section 21080 of the Public Resources Code shall comply with this part.

(b) The city or county, at the time that it determines whether an environmental impact report, a negative declaration, or a mitigated negative declaration is required for any project subject to the California Environmental Quality Act pursuant to Section 21080.1 of the Public Resources Code, shall identify any water system that is, or may become as a result of supplying water to the project identified pursuant to this subdivision, a public water system, as defined in Section 10912, that may supply water for the project. If the city or county is not able to identify any public water system that may supply water for the project, the city or county shall prepare the water assessment required by this part after consulting with any entity serving domestic water supplies whose service area includes the project site, the local agency formation commission, and any public water system adjacent to the project site.

(c) (1) The city or county, at the time it makes the determination required under Section 21080.1 of the Public Resources Code, shall request each public water system identified pursuant to subdivision (b) to determine whether the projected water demand associated with a proposed project was included as part of the most recently adopted urban water management plan adopted pursuant to Part 2.6 (commencing with Section 10610).

(2) If the projected water demand associated with the proposed project was accounted for in the most recently adopted urban water management plan, the public water system may incorporate the requested information from the urban water management plan in preparing the elements of the assessment required to comply with subdivisions (d), (e), (f), and (g).

(3) If the projected water demand associated with the proposed project was not accounted for in the most recently adopted urban water management plan, or the public water system has no urban water management plan, the water supply assessment for the project shall include a discussion with regard to whether the public water system's

total projected water supplies available during normal, single dry, and multiple dry water years during a 20-year projection will meet the projected water demand associated with the proposed project, in addition to the public water system's existing and planned future uses, including agricultural and manufacturing uses.

(4) If the city or county is required to comply with this part pursuant to subdivision (b), the water supply assessment for the project shall include a discussion with regard to whether the total projected water supplies, determined to be available by the city or county for the project during normal, single dry, and multiple dry water years during a 20-year projection, will meet the projected water demand associated with the proposed project, in addition to existing and planned future uses, including agricultural and manufacturing uses.

(d) (1) The assessment required by this section shall include an identification of any existing water supply entitlements, water rights, or water service contracts relevant to the identified water supply for the proposed project, and a description of the quantities of water received in prior years by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), under the existing water supply entitlements, water rights, or water service contracts.

(2) An identification of existing water supply entitlements, water rights, or water service contracts held by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), shall be demonstrated by providing information related to all of the following:

(A) Written contracts or other proof of entitlement to an identified water supply.

(B) Copies of a capital outlay program for financing the delivery of a water supply that has been adopted by the public water system.

(C) Federal, state, and local permits for construction of necessary infrastructure associated with delivering the water supply.

(D) Any necessary regulatory approvals that are required in order to be able to convey or deliver the water supply.

(e) If no water has been received in prior years by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), under the existing water supply entitlements, water rights, or water service contracts, the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), shall also include in its water supply assessment pursuant to subdivision (c), an

identification of the other public water systems or water service contractholders that receive a water supply or have existing water supply entitlements, water rights, or water service contracts, to the same source of water as the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), has identified as a source of water supply within its water supply assessments.

(f) If a water supply for a proposed project includes groundwater, the following additional information shall be included in the water supply assessment:

(1) A review of any information contained in the urban water management plan relevant to the identified water supply for the proposed project.

(2) A description of any groundwater basin or basins from which the proposed project will be supplied. For those basins for which a court or the board has adjudicated the rights to pump groundwater, a copy of the order or decree adopted by the court or the board and a description of the amount of groundwater the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), has the legal right to pump under the order or decree. For basins that have not been adjudicated, information as to whether the department has identified the basin or basins as overdrafted or has projected that the basin will become overdrafted if present management conditions continue, in the most current bulletin of the department that characterizes the condition of the groundwater basin, and a detailed description by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), of the efforts being undertaken in the basin or basins to eliminate the long-term overdraft condition.

(3) A detailed description and analysis of the amount and location of groundwater pumped by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), for the past five years from any groundwater basin from which the proposed project will be supplied. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

(4) A detailed description and analysis of the amount and location of groundwater that is projected to be pumped by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), from any basin from which the proposed project will be supplied. The description and analysis shall be based on information that is reasonably available,

including, but not limited to, historic use records.

(5) An analysis of the sufficiency of the groundwater from the basin or basins from which the proposed project will be supplied to meet the projected water demand associated with the proposed project.

A water supply assessment shall not be required to include the information required by this paragraph if the public water system determines, as part of the review required by paragraph (1), that the sufficiency of groundwater necessary to meet the initial and projected water demand associated with the project was addressed in the description and analysis required by paragraph (4) of subdivision (b) of Section 10631.

(g) (1) Subject to paragraph (2), the governing body of each public water system shall submit the assessment to the city or county not later than 90 days from the date on which the request was received. The governing body of each public water system, or the city or county if either is required to comply with this act pursuant to subdivision (b), shall approve the assessment prepared pursuant to this section at a regular or special meeting.

(2) Prior to the expiration of the 90-day period, if the public water system intends to request an extension of time to prepare and adopt the assessment, the public water system shall meet with the city or county to request an extension of time, which shall not exceed 30 days, to prepare and adopt the assessment.

(3) If the public water system fails to request an extension of time, or fails to submit the assessment notwithstanding the extension of time granted pursuant to paragraph (2), the city or county may seek a writ of mandamus to compel the governing body of the public water system to comply with the requirements of this part relating to the submission of the water supply assessment.

(h) Notwithstanding any other provision of this part, if a project has been the subject of a water supply assessment that complies with the requirements of this part, no additional water supply assessment shall be required for subsequent projects that were part of a larger project for which a water supply assessment was completed and that has complied with the requirements of this part and for which the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), has concluded that its water supplies are sufficient to meet the projected water demand associated with the proposed project, in addition to the existing and planned future uses, including, but not limited to, agricultural and industrial uses, unless one or more of the following changes occurs:

(1) Changes in the project that result in a substantial increase

in water demand for the project.

(2) Changes in the circumstances or conditions substantially affecting the ability of the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), to provide a sufficient supply of water for the project.

(3) Significant new information becomes available which was not known and could not have been known at the time when the assessment was prepared.

10911. (a) If, as a result of its assessment, the public water system concludes that its water supplies are, or will be, insufficient, the public water system shall provide to the city or county its plans for acquiring additional water supplies, setting forth the measures that are being undertaken to acquire and develop those water supplies. If the city or county, if either is required to comply with this part pursuant to subdivision (b), concludes as a result of its assessment, that water supplies are, or will be, insufficient, the city or county shall include in its water supply assessment its plans for acquiring additional water supplies, setting forth the measures that are being undertaken to acquire and develop those water supplies. Those plans may include, but are not limited to, information concerning all of the following:

(1) The estimated total costs, and the proposed method of financing the costs, associated with acquiring the additional water supplies.

(2) All federal, state, and local permits, approvals, or entitlements that are anticipated to be required in order to acquire and develop the additional water supplies.

(3) Based on the considerations set forth in paragraphs (1) and (2), the estimated timeframes within which the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), expects to be able to acquire additional water supplies.

(b) The city or county shall include the water supply assessment provided pursuant to Section 10910, and any information provided pursuant to subdivision (a), in any environmental document prepared for the project pursuant to Division 13 (commencing with Section 21000) of the Public Resources Code.

(c) The city or county may include in any environmental document an evaluation of any information included in that environmental

document provided pursuant to subdivision (b). The city or county shall determine, based on the entire record, whether projected water supplies will be sufficient to satisfy the demands of the project, in addition to existing and planned future uses. If the city or county determines that water supplies will not be sufficient, the city or county shall include that determination in its findings for the project.

10912. For the purposes of this part, the following terms have the following meanings:

(a) "Project" means any of the following:

(1) A proposed residential development of more than 500 dwelling units.

(2) A proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space.

(3) A proposed commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space.

(4) A proposed hotel or motel, or both, having more than 500 rooms.

(5) A proposed industrial, manufacturing, or processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area.

(6) A mixed-use project that includes one or more of the projects specified in this subdivision.

(7) A project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500 dwelling unit project.

(b) If a public water system has fewer than 5,000 service connections, then "project" means any proposed residential, business, commercial, hotel or motel, or industrial development that would account for an increase of 10 percent or more in the number of the public water system's existing service connections, or a mixed-use project that would demand an amount of water equivalent to, or greater than, the amount of water required by residential development that would represent an increase of 10 percent or more in the number of the public water system's existing service connections.

(c) "Public water system" means a system for the provision of piped water to the public for human consumption that has 3000 or more service connections. A public water system includes all of the

following:

(1) Any collection, treatment, storage, and distribution facility under control of the operator of the system which is used primarily in connection with the system.

(2) Any collection or pretreatment storage facility not under the control of the operator that is used primarily in connection with the system.

(3) Any person who treats water on behalf of one or more public water systems for the purpose of rendering it safe for human consumption.

10914. (a) Nothing in this part is intended to create a right or entitlement to water service or any specific level of water service.

(b) Nothing in this part is intended to either impose, expand, or limit any duty concerning the obligation of a public water system to provide certain service to its existing customers or to any future potential customers.

(c) Nothing in this part is intended to modify or otherwise change existing law with respect to projects which are not subject to this part.

(d) This part applies only to a project for which a notice of preparation is submitted on or after January 1, 1996.

10915. The County of San Diego is deemed to comply with this part if the Office of Planning and Research determines that all of the following conditions have been met:

(a) Proposition C, as approved by the voters of the County of San Diego in November 1988, requires the development of a regional growth management plan and directs the establishment of a regional planning and growth management review board.

(b) The County of San Diego and the cities in the county, by agreement, designate the San Diego Association of Governments as that review board.

(c) A regional growth management strategy that provides for a comprehensive regional strategy and a coordinated economic development and growth management program has been developed pursuant to Proposition C.

(d) The regional growth management strategy includes a water element to coordinate planning for water that is consistent with the

requirements of this part.

(e) The San Diego County Water Authority, by agreement with the San Diego Association of Governments in its capacity as the review board, uses the association's most recent regional growth forecasts for planning purposes and to implement the water element of the strategy.

(f) The procedures established by the review board for the development and approval of the regional growth management strategy, including the water element and any certification process established to ensure that a project is consistent with that element, comply with the requirements of this part.

(g) The environmental documents for a project located in the County of San Diego include information that accomplishes the same purposes as a water supply assessment that is prepared pursuant to Section 10910.

Appendix F

Metropolitan Water District of Southern California

(APPENDIX A)

APPENDIX A

The Metropolitan Water District of Southern California

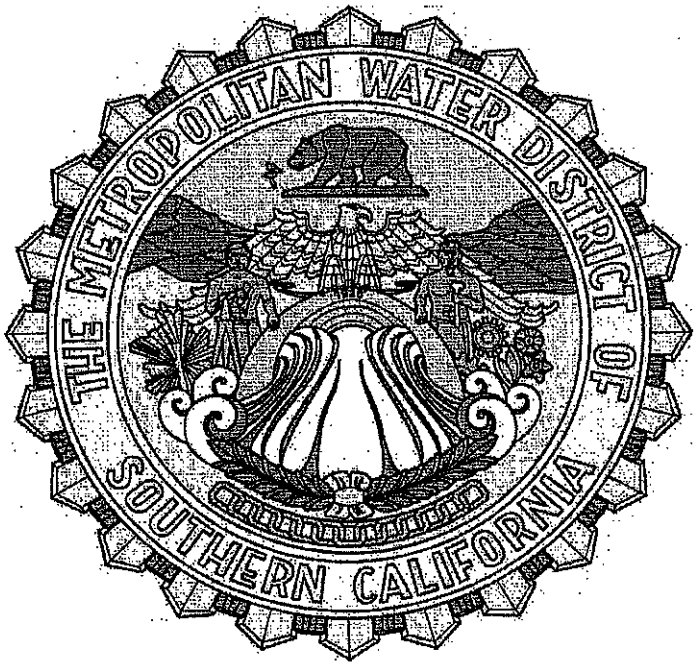


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TABLE OF CONTENTS

INTRODUCTION 1

Formation and Purpose 1
Member Agencies 1
Service Area 2

METROPOLITAN'S WATER SUPPLY 2

Integrated Water Resources Plan 3
The Integrated Resources Plan Strategy 4
State Water Project 5
Colorado River Aqueduct 13
Water Transfer, Storage and Exchange Programs 22
Storage Capacity and Water in Storage 24
Water Conservation 27
Water Supply Allocation Plan 28

REGIONAL WATER RESOURCES 28

Los Angeles Aqueduct 29
Local Water Supplies 30

METROPOLITAN'S WATER DELIVERY SYSTEM 32

Method of Delivery 32
Water Treatment 34
Seismic Considerations 35
Security Measures 37

CAPITAL INVESTMENT PLAN 37

General Description 37
Projection of Capital Investment Plan Expenditures 38
Capital Investment Plan Financing 38
Major Projects of Metropolitan's Capital Investment Plan 39

GOVERNANCE AND MANAGEMENT 40

Board of Directors 40
Management 40
Employee Relations 42
Risk Management 43

METROPOLITAN REVENUES 43

General 43
Summary of Receipts by Source 44
Revenue Allocation Policy and Tax Revenues 45
Water Sales Revenues 45
Rate Structure 47
Litigation Challenging Rate Structure 48

Member Agency Purchase Orders 49
Classes of Water Service 50
Water Rates by Water Category 50
Additional Revenue Components 51
Financial Reserve Policy 52
Wheeling and Exchange Charges 53
Hydroelectric Power Recovery Revenues 53
Principal Customers 53
Preferential Rights 54
California Ballot Initiatives 54
Investment of Moneys in Funds and Accounts 55

METROPOLITAN EXPENDITURES 57

General 57
Revenue Bond Indebtedness 59
Limitations on Additional Revenue Bonds 60
Variable Rate and Swap Obligations 61
Build America Bonds 66
Other Revenue Obligations 66
Revolving Credit Agreement 67
Subordinate Revenue Obligations 67
General Obligation Bonds 67
State Water Contract Obligations 68
Other Long-Term Commitments 71
Defined Benefit Pension Plan 71

HISTORICAL AND PROJECTED REVENUES AND EXPENDITURES 74

MANAGEMENT'S DISCUSSION OF HISTORICAL AND PROJECTED REVENUES AND EXPENDITURES 77

Water Sales Receipts 77
Water Sales Projections 78
Operation and Maintenance Expenditures 79

POWER SOURCES AND COSTS 79

General 79
Colorado River Aqueduct 80
State Water Project 80
Energy Management Program 81

INTRODUCTION

This Appendix A provides general information regarding The Metropolitan Water District of Southern California ("Metropolitan"), including information regarding Metropolitan's operations and finances. Statements included or incorporated by reference in this Appendix A constitute "forward-looking statements." Such statements are generally identifiable by the terminology used such as "plan," "project," "expect," "estimate," "budget" or other similar words. The achievement of results or other expectations contained in such forward-looking statements involve known and unknown risks, uncertainties and other factors which may cause actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by such forward-looking statements. Actual results may differ from Metropolitan's forecasts. Metropolitan is not obligated to issue any updates or revisions to the forward-looking statements in any event.

Metropolitan maintains a website that may include information on programs or projects described in this Appendix A; however, none of the information on Metropolitan's website is incorporated by reference and none of such information is intended to assist investors in making an investment decision or to provide any additional information with respect to the information included in this Appendix A.

Formation and Purpose

Metropolitan is a metropolitan water district created in 1928 under authority of the Metropolitan Water District Act (California Statutes 1927, Chapter 429, as reenacted in 1969 as Chapter 209, as amended (herein referred to as the "Act")). The Act authorizes Metropolitan to: levy property taxes within its service area; establish water rates; impose charges for water standby and service availability; incur general obligation bonded indebtedness and issue revenue bonds, notes and short-term revenue certificates; execute contracts; and exercise the power of eminent domain for the purpose of acquiring property. In addition, Metropolitan's Board of Directors (the "Board") is authorized to establish terms and conditions under which additional areas may be annexed to Metropolitan's service area.

Metropolitan's primary purpose is to provide a supplemental supply of water for domestic and municipal uses at wholesale rates to its member public agencies. If additional water is available, such water may be sold for other beneficial uses. Metropolitan serves its member agencies as a water wholesaler and has no retail customers.

The mission of Metropolitan, as promulgated by the Board, is to provide its service area with adequate and reliable supplies of high quality water to meet present and future needs in an environmentally and economically responsible way.

Metropolitan's charges for water sales and availability are fixed by its Board, and are not subject to regulation or approval by the California Public Utilities Commission or any other state or federal agency. Metropolitan imports water from two principal sources: northern California via the Edmund G. Brown California Aqueduct (the "California Aqueduct") of the State Water Project owned by the State of California (the "State") and the Colorado River via the Colorado River Aqueduct owned by Metropolitan.

Member Agencies

Metropolitan is comprised of 26 member public agencies, including 14 cities, 11 municipal water districts, and one county water authority, which collectively serve the residents and businesses of more than 300 cities and numerous unincorporated communities. Member agencies request water from Metropolitan at various delivery points within Metropolitan's system and pay for such water at uniform rates established by the Board for each class of service. Metropolitan's water is a supplemental supply for its member agencies, most of whom have other sources of water. See "METROPOLITAN REVENUES—Principal Customers" in this Appendix A for a listing of the ten member agencies with the highest water purchases from Metropolitan during the fiscal year ended June 30, 2012. Metropolitan's member agencies may, from time to time, develop

additional sources of water. No member is required to purchase water from Metropolitan, but all member agencies are required to pay readiness-to-serve charges whether or not they purchase water from Metropolitan. See "METROPOLITAN REVENUES—Rate Structure", "—Member Agency Purchase Orders" and "—Additional Revenue Components" in this Appendix A.

The following table lists the 26 member agencies of Metropolitan.

Municipal Water Districts		Cities		County Water Authority
Calleguas	Las Virgenes	Anaheim	Los Angeles	San Diego[1]
Central Basin	Orange County	Beverly Hills	Pasadena	
Eastern	Three Valleys	Burbank	San Fernando	
Foothill	West Basin	Compton	San Marino	
Inland Empire Utilities Agency		Fullerton	Santa Ana	
Upper San Gabriel Valley		Glendale	Santa Monica	
Western of Riverside County		Long Beach	Torrance	

(1) The San Diego County Water Authority, currently Metropolitan's largest customer, is a plaintiff in litigation challenging the allocation of costs to certain rates adopted by Metropolitan's Board. See "METROPOLITAN REVENUES—Litigation Challenging Rate Structure" in this Appendix A.

Service Area

Metropolitan's service area comprises approximately 5,200 square miles and includes portions of the six counties of Los Angeles, Orange, Riverside, San Bernardino, San Diego and Ventura. When Metropolitan began delivering water in 1941, its service area consisted of approximately 625 square miles. Its service area has increased by 4,500 square miles since that time. The expansion is primarily the result of annexation of the service areas of additional member agencies.

Metropolitan estimates that approximately 18 million people lived in Metropolitan's service area in 2010, based on official estimates from the California Department of Finance and on population distribution estimates from the Southern California Association of Governments ("SCAG") and San Diego Association of Governments ("SANDAG"). Population projections prepared by SCAG in 2012 and SANDAG in 2010, as part of their planning process to update regional transportation and land use plans, show expected population growth of about 18 percent in Metropolitan's service area between 2010 and 2035. The 2010 Census population estimates are incorporated into SCAG's 2012 projections. The 2010 SANDAG regional growth projections do not incorporate the 2010 Census population estimates. The economy of Metropolitan's service area is exceptionally diverse. As measured in 2011, the economy of Metropolitan's service area had a gross domestic product larger than all but fifteen nations of the world. Metropolitan provides between 40 and 60 percent of the water used within its service area in any year. For additional economic and demographic information concerning Metropolitan's service area, see Appendix E – "SELECTED DEMOGRAPHIC AND ECONOMIC INFORMATION FOR METROPOLITAN'S SERVICE AREA."

The climate in Metropolitan's service area ranges from moderate temperatures throughout the year in the coastal areas to hot and dry summers in the inland areas. Annual rainfall in an average year is 13 to 15 inches along the coastal area, up to 20 inches in foothill areas and less than 10 inches inland.

METROPOLITAN'S WATER SUPPLY

Metropolitan faces a number of challenges in providing a reliable and high quality water supply for southern California. These include, among others: (1) population growth within the service area; (2) increased competition for low-cost water supplies; (3) variable weather conditions; and (4) increased environmental regulations. Metropolitan's resources and strategies for meeting these long-term challenges

are set forth in its Integrated Water Resources Plan, as updated from time to time. See "—Integrated Water Resources Plan" below.

Metropolitan's principal sources of water are the State Water Project and the Colorado River. Recent court decisions have restricted deliveries from the State Water Project as described below under "—State Water Project—*Endangered Species Act Considerations.*" Precipitation, in the form of snow or rain, and its resulting runoff and storage levels are key indicators for Metropolitan's supplies from both its State and Colorado River sources. Snowpack, as presented below, is a percentage of the April 1 historical average water content. April 1 is recognized as the typical peak of the season in any given year.

California hydrology is highly variable from year to year and sometimes within the same year. Following a three year drought, California Governor Jerry Brown proclaimed in March 2011 an end to the statewide drought emergency proclaimed in February 2009 by then-Governor of California Arnold Schwarzenegger. In 2011, California's snowpack peaked at 163 percent of normal. Drier conditions returned for 2012, with California statewide snowpack peaking in mid-April 2012 at 64 percent of normal. Large storms in November and December of 2012 started 2013 with above normal snowpack conditions for the State. Dry conditions from January 2013 through May 2013 resulted in the driest January through May period on record for northern California. The California 2013 snowpack peaked in March at 61 percent of normal with an associated 65 percent runoff forecasted by the California Department of Water Resources ("DWR") in May 2013. Despite these below normal water supply conditions, key DWR storage reservoirs are above or near historical average capacity in part due to the storms in late 2012, except for San Luis Reservoir which was 38 percent full in May 2013.

Metropolitan's Colorado River supply comes from watersheds of the Upper Colorado River basin in the states of Colorado, Utah, and Wyoming. The total basin wide snowpack peaked in late April at 88 percent of normal with an associated runoff forecasted by the Bureau of Reclamation on June 10, 2013 at 44 percent of normal. At the beginning of June 2013, Lake Mead storage was 48 percent of normal and total system storage was 52 percent of normal, down from 62 percent one year earlier.

Uncertainties from potential future temperature and precipitation changes in a climate driven by increased concentrations of atmospheric carbon dioxide also present challenges. Areas of concern to California water planners identified by researchers include reduction in Sierra Nevada snowpack; increased intensity and frequency of extreme weather events; and rising sea levels resulting in increased risk of damage from storms, high-tide events, and the erosion of levees and potential cutbacks of deliveries from the State Water Project. While potential impacts from climate change remain subject to study and debate, climate change is among the uncertainties that Metropolitan seeks to address through its planning processes.

Integrated Water Resources Plan

Metropolitan, its member agencies, sub-agencies and groundwater basin managers developed their first Integrated Water Resources Plan ("IRP"), which was adopted by the Board in January 1996 and updated in 2004, as a long-term planning guideline for resources and capital investments. The purpose of the IRP was the development of a portfolio of preferred resources (see "—The Integrated Resources Plan Strategy" below) to meet the water supply reliability and water quality needs for the region in a cost-effective and environmentally sound manner.

On October 12, 2010, Metropolitan's Board adopted an IRP update (the "2010 IRP Update") as a strategy to set goals and a framework for water resources development. This strategy enables Metropolitan and its member agencies to manage future challenges and changes in California's water conditions and to balance investments with water reliability benefits. The 2010 IRP Update provides an adaptive management approach to address future uncertainty, including uncertainty from climate change. It was formulated with input from member agencies, retail water agencies, and other stakeholders including water and wastewater

managers, environmental and business interests and the community. The framework places an emphasis on regional collaboration.

The 2010 IRP Update seeks to provide regional reliability through 2035 by stabilizing Metropolitan's traditional imported water supplies and continuing to develop additional local resources, with an increased emphasis on regional collaboration. It also advances long-term planning for potential future contingency resources, such as storm water capture and large-scale seawater desalination, in close coordination with Metropolitan's 26 member agencies and other utilities.

The 2010 IRP Update is available on Metropolitan's web site at http://www.mwdh2o.com/mwdh2o/pages/yourwater/irp/. Specific projects that may be developed by Metropolitan in connection with the implementation of the IRP will be subject to future Board consideration and approval, as well as environmental and regulatory documentation and compliance. The information set forth on Metropolitan's web site is not incorporated by reference.

The Integrated Resources Plan Strategy

The IRP Strategy identifies a balance of local and imported water resources within Metropolitan's service area. Metropolitan expects that the core resource strategy, uncertainty buffers and foundational actions in the IRP Strategy will be continually reviewed and updated at least every five years to reflect changing demand and supply conditions.

The following paragraphs describe several elements of the IRP Strategy.

State Water Project. The State Water Project is one of Metropolitan's two major sources of water. In addition to municipal and industrial use of this core supply, State Water Project supplies are important for maximizing local groundwater potential and the use of recycled water since State Water Project water has lower salinity content than Colorado River Aqueduct water and can be used to increase groundwater conjunctive use applications. See "—State Water Project" below and "REGIONAL WATER RESOURCES—Local Water Supplies" in this Appendix A.

Colorado River Aqueduct. The Colorado River Aqueduct delivers water from the Colorado River, Metropolitan's original source of supply. Metropolitan has helped to fund and implement farm and irrigation district conservation programs, improvements to river operation facilities, land management programs and water transfers and exchanges through agreements with agricultural water districts in southern California and entities in Arizona and Nevada that use Colorado River water. See "—Colorado River Aqueduct" below.

Water Conservation. Conservation and other water use efficiencies are integral components of Metropolitan's IRP. Metropolitan has invested in conservation programs since the 1980s. Historically, most of the investments have been in water efficient fixtures in the residential sector. Current efforts also focus on outdoor and commercial water use. See "—Water Conservation" below.

Recycled Water. Reclaimed or recycled municipal and industrial water is not potable, but can be used for landscape irrigation, agriculture, protecting groundwater basins from saltwater intrusion, industrial processes, and recharging local aquifers. Metropolitan offers financial incentives to member agencies for developing economically viable reclamation projects. See "REGIONAL WATER RESOURCES—Local Water Supplies" in this Appendix A.

Conjunctive Use. Conjunctive use is the coordinated use of surface water supplies and groundwater storage. It entails storing surplus imported water during the winter months or wet years in local surface reservoirs and recharging local groundwater basins, then using the stored supplies during dry months and droughts, thus increasing the supply reliability of the region. See "REGIONAL WATER RESOURCES—Local Water Supplies" in this Appendix A.

Water Transfers and Exchanges. Under voluntary water transfer or exchange agreements, agricultural communities using irrigation water may periodically sell some of their water allotments to urban areas. The water may be delivered through existing State Water Project or Colorado River Aqueduct facilities, or may be exchanged for water that is delivered through such facilities. Metropolitan's policy toward potential transfers states that the transfers will be designed to protect and, where feasible, enhance environmental resources and avoid the mining of local groundwater supplies. See "—Water Transfer, Storage and Exchange Programs" below.

Groundwater Recovery. Natural groundwater reservoirs serve an important function as storage facilities for local and imported water. When groundwater storage becomes contaminated, water agencies have to rely more heavily on imported water supplies. Treatment for polluted groundwater is quite costly and poses environmental challenges. Metropolitan offers financial incentives to help fund member agency groundwater recovery projects. See "REGIONAL WATER RESOURCES—Local Water Supplies" in this Appendix A.

Seawater Desalination. Seawater desalination is the process of removing salts from ocean water to produce potable supplies. It is a potential new local supply that could help increase supply reliability in Metropolitan's service area. Metropolitan offers financial incentives to member agencies for seawater desalination projects through its Seawater Desalination Program. Currently, a number of seawater desalination projects are under development within Metropolitan's service area. See "REGIONAL WATER RESOURCES—Local Water Supplies" and "METROPOLITAN REVENUES—Rate Structure" in this Appendix A.

State Water Project

General. One of Metropolitan's two major sources of water is the State Water Project, which is owned by the State and operated by DWR. This project transports Feather River water stored in and released from Oroville Dam and unregulated flows diverted directly from the San Francisco Bay/Sacramento-San Joaquin River Delta ("Bay-Delta") south via the California Aqueduct to four delivery points near the northern and eastern boundaries of Metropolitan's service area. The total length of the California Aqueduct is approximately 444 miles.

In 1960, Metropolitan signed a water supply contract (as amended, the "State Water Contract") with DWR. Metropolitan is one of 29 agencies that have long-term contracts for water service from DWR, and is the largest agency in terms of the number of people it serves (approximately 18 million), the share of State Water Project water that it has contracted to receive (approximately 46 percent), and the percentage of total annual payments made to DWR by agencies with State water contracts (approximately 53 percent for 2012). For information regarding Metropolitan's obligations under the State Water Contract, see "METROPOLITAN EXPENDITURES—State Water Contract Obligations" in this Appendix A. Upon expiration of the State Water Contract term (currently in 2035), Metropolitan has the option to continue service under substantially the same terms and conditions.

The State Water Contract, under a 100 percent allocation, provides Metropolitan 1,911,500 acre-feet of water. (An acre-foot is the amount of water that will cover one acre to a depth of one foot and equals approximately 326,000 gallons, which represents the needs of two average families in and around the home for one year.) Water received from the State Water Project by Metropolitan over the ten years from 2003 through 2012, including water from water transfer, groundwater banking and exchange programs delivered through the California Aqueduct, described below under "—Water Transfer, Storage and Exchange Programs," varied from a low of 908,000 acre-feet in calendar year 2009 to a high of 1,800,000 acre-feet in 2004.

For calendar year 2012, DWR's allocation estimate to State Water Project contractors was 65 percent of contracted amounts. For Metropolitan, the 2012 allocation provided 1,242,475 acre-feet, or 65 percent of

its 1,911,500-acre-foot contractual amount. In addition, Metropolitan began 2012 with 200,000 acre-feet of carryover supplies from prior years in San Luis Reservoir, a joint use facility of the State Water Project and federal Central Valley Project, and took delivery of approximately 75,000 acre-feet of these supplies in 2012. In 2012, Metropolitan took delivery to its service area of approximately 1.25 million acre-feet, including supplies from water transfers, exchanges and other deliveries through the California Aqueduct. Additional amounts were stored and exchanged with Metropolitan's out of service area storage and exchange partners. See "—Water Transfer, Storage and Exchange Programs" and "—Storage Capacity and Water in Storage" below.

For calendar year 2013, DWR's initial allocation estimate to the State Water Project contractors was 30 percent of contracted amounts. This estimate was increased to 40 percent on December 21, 2012, due to early season storms and decreased to 35 percent on March 22, 2013, due primarily to a record dry January and February in northern California. DWR may revise the allocation estimate if warranted by the year's developing precipitation and water supply conditions. For Metropolitan, the 2013 allocation will provide 669,025 acre-feet, or 35 percent of its 1,911,500 acre-foot contractual amount. In addition, Metropolitan began 2013 with more than 282,000 acre-feet of carryover supplies from prior years in San Luis Reservoir, all of which can be drawn in 2013. If the 2013 allocation is not sufficient, Metropolitan can draw down its storage to meet demands. See the table "Metropolitan's Water Storage Capacity and Water in Storage" under the heading "—Storage Capacity and Water in Storage" below.

Endangered Species Act Considerations

General. The listing of several fish species as threatened or endangered under the federal or California Endangered Species Acts (respectively, the "Federal ESA" and the "California ESA" and, collectively, the "ESAs") have adversely impacted State Water Project operations and limited the flexibility of the State Water Project. Currently, five species (the winter-run and spring-run Chinook salmon, Delta smelt, North American green sturgeon and Central Valley steelhead) are listed under the ESAs. In addition, on June 25, 2009, the California Fish and Game Commission declared the longfin smelt a threatened species under the California ESA.

The Federal ESA requires that before any federal agency authorizes funds or carries out an action it must consult with the appropriate federal fishery agency to determine whether the action would jeopardize the continued existence of any threatened or endangered species, or adversely modify habitat critical to the species' needs. The result of the consultation is known as a "biological opinion." In the biological opinion the federal fishery agency determines whether the action would cause jeopardy to a threatened or endangered species or adverse modification to critical habitat and recommends reasonable and prudent alternatives or measures that would allow the action to proceed without causing jeopardy or adverse modification. The biological opinion also includes an "incidental take statement." The incidental take statement allows the action to go forward even though it will result in some level of "take," including harming or killing some members of the species, incidental to the agency action, provided that the agency action does not jeopardize the continued existence of any threatened or endangered species and complies with reasonable mitigation and minimization measures recommended by the federal fishery agency.

In 2004 and 2005, the United States Fish and Wildlife Service ("USFWS") and National Marine Fisheries Service issued biological opinions and incidental take statements governing the coordinated operations of the State Water Project and the federal Central Valley Project with respect to the Delta smelt, the winter-run and spring-run Chinook salmon and the Central Valley steelhead. In July 2006, the Bureau of Reclamation reinitiated consultation with the USFWS and National Marine Fisheries Service with respect to the 2004 and 2005 biological opinions (with the addition of the North American green sturgeon, which was listed in April 2006) following the filing of legal challenges to those biological opinions and incidental take statements described under "*Federal ESA Litigation*" below. Under the Federal ESA, critical habitat must also be designated for each listed species. Critical habitat has been designated for each of the currently listed species.

Federal ESA Litigation. Litigation filed by several environmental interest groups *(NRDC v. Kempthorne;* and *Pacific Coast Federation of Fishermen's Associations v. Gutierrez)* in the United States District Court for the Eastern District of California alleged that the 2004 and 2005 biological opinions and incidental take statements inadequately analyzed impacts on listed species under the Federal ESA.

On May 25, 2007, Federal District Judge Wanger issued a decision on summary judgment in *NRDC v. Kempthorne*, finding the USFWS biological opinion for Delta smelt to be invalid. The USFWS released a new biological opinion on the impacts of the State Water Project and Central Valley Project on Delta smelt on December 15, 2008. Metropolitan, the San Luis & Delta Mendota Water Authority, Westlands Water District, Kern County Water Agency, Coalition for a Sustainable Delta and State Water Contractors, a California nonprofit corporation formed by agencies contracting with DWR for water from the State Water Project (the "State Water Contractors"), the Family Farm Alliance and the Pacific Legal Foundation on behalf of several owners of small farms in California's Central Valley filed separate lawsuits in federal district court challenging the biological opinion, which the federal court consolidated under the caption *Delta Smelt Consolidated Cases*.

On December 14, 2010, Judge Wanger issued a decision on summary judgment finding that there were major scientific and legal flaws in the Delta smelt biological opinion. The court found that some but not all of the restrictions on project operations contained in the 2008 Delta smelt biological opinion were arbitrary, capricious and unlawful. On May 18, 2011, Judge Wanger issued a final amended judgment directing the USFWS to complete a new draft biological opinion by October 1, 2011, and a final biological opinion with environmental documentation by December 1, 2013. Later stipulations and orders changed the October 1, 2011 due date for a draft biological opinion to December 14, 2011. A draft biological opinion was issued on December 14, 2011. The draft biological opinion deferred specification of a reasonable and prudent alternative and an incidental take statement pending completion of environmental impact review under the National Environmental Policy Act ("NEPA"). The federal defendants and environmental intervenors appealed the final judgment invalidating the 2008 Delta smelt biological opinion to the U.S. Court of Appeals for the Ninth Circuit. State Water Project and Central Valley Project contractor plaintiffs, including Metropolitan, cross-appealed from the final judgment. Those appeals and cross-appeals were argued on September 10, 2012. It is unknown when the court will issue a decision.

On February 25, 2011, the federal court approved a settlement agreement modifying biological opinion restrictions on Old and Middle River flows that would have otherwise applied in spring 2011. The settlement agreement expired on June 30, 2011. State Water Project and Central Valley Project contractors also moved to enjoin certain fall salinity requirements in the biological opinion that were set to become operable in September and October 2011. After an evidentiary hearing on the water contractors' motion in July 2011, Judge Wanger issued a decision on August 31, 2011, modifying the fall salinity related requirements in the biological opinion. The effect of the injunction was to reduce water supply impacts from the biological opinion's fall salinity requirements. The federal defendants and the environmental intervenors appealed the injunction on fall salinity requirements but the federal defendants subsequently dismissed their appeal in October 2011. The State Water Project and Central Valley Project contractors moved to dismiss the environmental intervenors' appeal of the fall salinity requirement on the ground that the salinity requirement for 2011 has expired, and is therefore moot. On August 23, 2012, the Ninth Circuit granted the water contractors' motion and dismissed the fall salinity appeal as moot.

On April 16, 2008, in *Pacific Coast Federation of Fishermen's Associations v. Gutierrez*, the court invalidated the 2004 National Marine Fisheries Service's biological opinion for the salmon and other fish species that spawn in rivers flowing into the Bay-Delta. Among other things, the court found that the no-jeopardy conclusions in the biological opinion were inconsistent with some of the factual findings in the biological opinion; that the biological opinion failed to adequately address the impacts of State Water Project and Central Valley Project operations on critical habitat and that there was a failure to consider how climate change and global warming might affect the impacts of the projects on salmonid species.

The National Marine Fisheries Service released a new biological opinion for salmonid species to replace the 2004 biological opinion on June 4, 2009. The 2009 salmonid species biological opinion contains additional restrictions on State Water Project and Central Valley Project operations. The National Marine Fisheries Service calculated that these restrictions will reduce the amount of water the State Water Project and Central Valley Project combined will be able to export from the Bay-Delta by 5 to 7 percent. DWR had estimated a 10 percent average water loss under this biological opinion. See "—*State Water Project Operational Constraints*" below for the estimated impact to Metropolitan's water supply. Six lawsuits were filed challenging the 2009 salmon biological opinion. These various lawsuits have been brought by the San Luis & Delta Mendota Water Authority, Westlands Water District, Stockton East Water District, Oakdale Irrigation District, Kern County Water Agency, the State Water Contractors and Metropolitan. The court consolidated the cases under the caption *Consolidated Salmon Cases.*

On May 25, 2010, the court granted the plaintiffs' request for preliminary injunction in the *Consolidated Salmon Cases*, restraining enforcement of two requirements under the salmon biological opinion that limit exported water during the spring months based on San Joaquin River flows into the Bay-Delta and reverse flows on the Old and Middle Rivers. Hearings on motions for summary judgment in the *Consolidated Salmon Cases* were held on December 16, 2010. On September 20, 2011, Judge Wanger issued a decision on summary judgment, finding that the salmon biological opinion was flawed, and that some but not all of the project restrictions in the biological opinion were arbitrary and capricious. On December 12, 2011, Judge O'Neill (who was assigned to this case following Judge Wanger's retirement) issued a final judgment in the *Consolidated Salmon Cases.* The final judgment remands the 2009 salmon biological opinion to the National Marine Fisheries Service, and directs that a new draft salmon biological opinion be issued by October 1, 2014, and that a final biological opinion be issued by February 1, 2016, after completion of environmental impact review under NEPA. On January 19, 2012, Judge O'Neill approved a joint stipulation of the parties that specifies how to comply with one of the salmon biological opinion restrictions that applies to water project operations in April and May of 2012. In January and February 2012, the federal defendants and environmental intervenors filed appeals of the final judgment in the *Consolidated Salmon Cases,* and the State Water Project and Central Valley Project contractors filed cross-appeals. Those appeals and cross-appeals are now pending in the Ninth Circuit.

On November 13, 2009, the Center for Biological Diversity filed separate lawsuits challenging the USFWS' failure to respond to a petition to change the Delta smelt's federal status from threatened to endangered and the USFWS' denial of federal listing for the longfin smelt. On April 2, 2010, the USFWS issued a finding that uplisting the Delta smelt was warranted but precluded by the need to devote resources to higher-priority matters. This "warranted but precluded" finding did not change the regulatory restrictions applicable to Delta smelt. For the longfin smelt litigation, a settlement agreement was approved on February 2, 2011. Under the agreement, the USFWS agreed to complete a range-wide status review of the longfin smelt and consider whether the Bay-Delta longfin smelt population, or any other longfin smelt population from California to Alaska, qualifies as a "distinct population" that warrants federal protection. On April 2, 2012, the USFWS issued its finding that the Bay-Delta longfin smelt population warrants protection under the ESA but is precluded from listing as a threatened or endangered species by the need to address other higher priority listing actions. The review identified several threats facing longfin smelt in the Bay-Delta, including reduced freshwater Bay-Delta outflows. The finding includes the determination that the Bay-Delta longfin smelt will be added to the list of candidates for ESA protection, where its status will be reviewed annually.

California ESA Litigation. In addition to the litigation under the Federal ESA, other environmental groups sued DWR on October 4, 2006 in the Superior Court of the State of California for Alameda County alleging that DWR was "taking" listed species without authorization under the California ESA. This litigation *(Watershed Enforcers, a project of the California Sportfishing Protection Alliance v. California Department of Water Resources)* requested that DWR be mandated to either cease operation of the State Water Project pumps, which deliver water to the California Aqueduct, in a manner that results in such "taking" of listed species or obtain authorization for such "taking" under the California ESA. On April 18,

2007, the Alameda County Superior Court issued its Statement of Decision finding that DWR was illegally "taking" listed fish through operation of the State Water Project export facilities. The Superior Court ordered DWR to "cease and desist from further operation" of those facilities within 60 days unless it obtained take authorization from the California Department of Fish and Game.

DWR appealed the Alameda County Superior Court's order on May 7, 2007. This appeal stayed the order pending the outcome of the appeal. The Court of Appeal stayed processing of the appeal in 2009 to allow time for DWR to obtain incidental take authorization for the Delta smelt and salmon under the California ESA, based on the consistency of the federal biological opinions with California ESA requirements ("Consistency Determinations"). After the California Department of Fish & Game issued the Consistency Determinations under the California ESA, authorizing the incidental take of both Delta smelt and salmon, appellants DWR and State Water Contractors dismissed their appeals of the *Watershed Enforcers* decision. The Court of Appeal subsequently issued a decision finding that DWR was a "person" under the California ESA and subject to its take prohibitions, which was the only issue left in the case. The State Water Contractors and Kern County Water Agency have filed suit in state court challenging the Consistency Determinations under the California ESA that have been issued for both Delta smelt and salmon. Those lawsuits challenging the Consistency Determinations are pending. The parties are continuing discussions of adjustments to the incidental take authorizations in light of the summary judgment ruling in the *Delta Smelt Consolidated Cases* and the *Consolidated Salmon Cases*, discussed under the heading *"—Federal ESA Litigation"* above.

The California Fish and Game Commission listed the longfin smelt as a threatened species under the California ESA on June 25, 2009. On February 23, 2009, in anticipation of the listing action, the California Department of Fish and Game issued a California ESA section 2081 incidental take permit to DWR authorizing the incidental take of longfin smelt by the State Water Project. This permit authorizes continued operation of the State Water Project under the conditions specified in the section 2081 permit. The State Water Contractors filed suit against the California Department of Fish and Game on March 25, 2009, alleging that the export restrictions imposed by the section 2081 permit have no reasonable relationship to any harm to longfin smelt caused by State Water Project operations, are arbitrary and capricious and are not supported by the best available science. The lawsuit is pending and the administrative record for the cases has been completed.

State Water Project Operational Constraints. DWR has altered the operations of the State Water Project to accommodate species of fish listed under the ESAs. These changes in project operations have adversely affected State Water Project deliveries. The impact on total State Water Project deliveries attributable to the Delta smelt and salmonid species biological opinions combined is estimated to be one million acre-feet in an average year, reducing State Water Project deliveries from approximately 3.3 million acre-feet to approximately 2.3 million acre-feet for the year under average hydrology, and are estimated to range from 0.3 million acre-feet during critically dry years to 1.3 million acre-feet in above normal water years. State Water Project deliveries to contractors for calendar years 2008 through 2012 were reduced by a total of approximately 2.3 million acre-feet as a result of pumping restrictions. Pumping restrictions impacting the State Water Project allocation for 2013 have reduced exports by approximately 556,000 acre-feet through March 31, 2013.

Operational constraints likely will continue until long-term solutions to the problems in the Bay-Delta are identified and implemented. The Delta Vision process, established by then-Governor Schwarzenegger, was aimed at identifying long-term solutions to the conflicts in the Bay-Delta, including natural resource, infrastructure, land use and governance issues. In addition, State and federal resource agencies and various environmental and water user entities are currently engaged in the development of the Bay-Delta Conservation Plan, which is aimed at addressing ecosystem needs and securing long-term operating permits for the State Water Project, and includes the Delta Habitat Conservation and Conveyance Program (DHCCP) (together, the "BDCP"). The BDCP's current efforts consist of the preparation of the environmental documentation and preliminary engineering design for Bay-Delta water conveyance and related habitat

conservation measures under the BDCP. The Delta Vision process and the BDCP are discussed further under "*—Bay-Delta Regulatory and Planning Activities*" below.

Other issues, such as the decline of some fish populations in the Bay-Delta and surrounding regions and certain operational actions in the Bay-Delta, may significantly reduce Metropolitan's water supply from the Bay-Delta. State Water Project operational requirements may be further modified under new biological opinions for listed species under the Federal ESA or by the California Department of Fish and Game's issuance of incidental take authorizations under the California ESA. Biological opinions or incidental take authorizations under the Federal ESA and California ESA might further adversely affect State Water Project and Central Valley Project operations. Additionally, new litigation, listings of additional species or new regulatory requirements could further adversely affect State Water Project operations in the future by requiring additional export reductions, releases of additional water from storage or other operational changes impacting water supply operations. Metropolitan cannot predict the ultimate outcome of any of the litigation or regulatory processes described above but believes they could have a materially adverse impact on the operation of the State Water Project pumps, Metropolitan's State Water Project supplies and Metropolitan's water reserves.

"Area of Origin" Litigation. Four State Water Project contractors located north of the State Water Project's Bay-Delta pumping plant filed litigation against DWR on July 17, 2008, asserting that since they are located in the "area of origin" of State Water Project water they are entitled to receive their entire contract amount before any water is delivered to contractors south of the Bay-Delta. If the plaintiffs are successful in this litigation, State Water Project water available to Metropolitan in a drought period could be reduced by approximately 25,000 acre-feet each year of a multi-year drought or by as much as 40,000 acre-feet in an exceedingly dry year. Metropolitan and twelve other State Water Project contractors located south of the Bay-Delta filed motions to intervene in this litigation, which were granted on February 25, 2009. In May 2012, the parties reached an agreement in principle that plaintiffs will dismiss the action with prejudice and agree to certain limitations on asserting area of origin arguments in the future; in return DWR and the intervenors will agree to operational changes that will increase the reliability of plaintiffs' State Water Project supplies at little or minimal cost to other State Water Project water contractors. The parties are drafting a settlement agreement and preparing environmental documentation.

Bay-Delta Regulatory and Planning Activities. The State Water Resources Control Board ("SWRCB") is the agency responsible for setting water quality standards and administering water rights throughout California. Decisions of the SWRCB can affect the availability of water to Metropolitan and other users of State Water Project water. The SWRCB exercises its regulatory authority over the Bay-Delta by means of public proceedings leading to regulations and decisions. These include the Bay-Delta Water Quality Control Plan ("WQCP"), which establishes the water quality objectives and proposed flow regime of the estuary, and water rights decisions, which assign responsibility for implementing the objectives of the WQCP to users throughout the system by adjusting their respective water rights. The SWRCB is required by law to periodically review its WQCP to ensure that it meets the changing needs of this complex system.

Since 2000, SWRCB's Water Rights Decision 1641 ("D-1641") has governed the State Water Project's ability to export water from the Bay-Delta for delivery to Metropolitan and other agencies receiving water from the State Water Project. D-1641 allocated responsibility for meeting flow requirements and salinity and other water quality objectives established earlier by the WQCP. The SWRCB also identified additional issues to review, which could result in future changes in water quality objectives and flows that could affect exports of water from the State Water Project. Currently, the SWRCB is reviewing salinity objectives in the Bay-Delta intended to protect Bay-Delta farming and inflow requirements upstream of the Delta to protect aquatic species.

The CALFED Bay-Delta Program was a collaborative effort among 25 State and federal agencies to improve water supplies in California and the health of the Bay-Delta watershed. On August 28, 2000, the federal government and the State issued a Record of Decision ("ROD") and related documents approving the

final programmatic environmental documentation for the CALFED Bay-Delta Program. The Environmental Impact Report (EIR) under the California Environmental Quality Act (CEQA) was challenged in three separate cases, but ultimately upheld by the California Supreme Court in June 2008.

The CALFED Bay-Delta Program resulted in an investment of $3 billion on a variety of projects and programs to begin addressing the Bay-Delta's water supply, water quality, ecosystem, and levee stability problems. To guide future development of and governance for the CALFED Bay-Delta Program and identify a strategy for managing the Bay-Delta as a sustainable resource, in September 2006, then-Governor Schwarzenegger established by Executive Order a Delta Vision process. The Delta Vision process resulted in creation of a Delta Vision Blue Ribbon Task Force that issued its Delta Vision Strategic Plan (the "Strategic Plan") on October 17, 2008, providing its recommendations for long-term sustainable management of the Bay-Delta. These recommendations included completing the BDCP and associated environmental assessments to permit ecosystem revitalization and water conveyance improvements, identifying and reducing stressors to the Bay-Delta ecosystem, strengthening levees, increasing emergency preparedness, continuing funding for the CALFED ecosystem restoration program, updating Bay-Delta regulatory flow and water quality standards to protect beneficial uses of water and working with the State Legislature on a comprehensive water bond package to fund Bay-Delta infrastructure projects.

On November 4, 2009, the State Legislature authorized an $11.1 billion water bond measure that includes over $2 billion for Bay-Delta ecosystem restoration as well as $3 billion for new water storage and additional funds for water recycling, drought relief, conservation and watershed protection projects. The bond measure is subject to voter authorization and was scheduled to be included on the November 2010 ballot; however, in August 2010 the Legislature postponed the bond election to 2012 and in July 2012 the legislature postponed the bond election to 2014. Delaying the bond election did not impact other parts of the 2009 water legislation. Related legislation created a new oversight council for the Bay-Delta, the Delta Stewardship Council, and directs that the Bay-Delta be managed with dual goals of water supply reliability and ecosystem protection, sets a statewide conservation target for urban per capita water use of 20 percent reductions by 2020 (with credits for existing conservation), provides funding for increased enforcement of illegal water diversions and establishes a statewide groundwater monitoring program. The Delta Stewardship Council, formed on February 3, 2010, is CALFED's successor agency and was directed to adopt and oversee implementation of a comprehensive management plan for the Bay-Delta. The Delta Stewardship Council certified the Program EIR for the Delta Plan and approved the Delta Plan on May 16, 2013, and adopted regulations corresponding to the policies in the Delta Plan on May 17, 2013.

On May 24, 2013, the San Luis & Delta-Mendota Water Authority and Westlands Water District filed litigation in Sacramento Superior Court challenging the adequacy of the Program EIR under CEQA, and alleged that the Delta Plan is invalid because, among other things, it is inconsistent with the Delta Reform Act of 2009. On June 14, 2013, several different actions were filed challenging the adequacy of the Program EIR under CEQA and alleging that the Delta Plan is invalid. The State Water Contractors, Metropolitan, Alameda County Flood Control and Water Conservation District, Zone 7, Santa Clara Valley Water District, Antelope Valley-East Kern Water Agency, and San Bernardino Valley Municipal Water District filed in Sacramento Superior Court; several environmental interest groups, as well as several fishing industry groups and the Winnemem Wintu Tribe filed in San Francisco Superior Court; and the City of Stockton filed in San Joaquin County Superior Court. On June 17, 2013, Save the California Delta Alliance, as well as the Central Delta Water Agency, South Delta Water Agency, Local Agencies of the North Delta, and others filed in San Francisco Superior Court. The impact, if any, that such litigation might have on Metropolitan's State Water Project supplies cannot be determined at this time.

The working draft BDCP was completed in November 2010 and a full public draft BDCP is anticipated by October 1, 2013. The planning, environmental documentation and preliminary engineering design for the BDCP are being prepared pursuant to the Delta Habitat Conservation and Conveyance Program Memorandum of Agreement ("MOA") and are also scheduled to be completed in 2013. The parties to the MOA are DWR, the Bureau of Reclamation, the State and Federal Contractors Water Agency, Metropolitan,

Kern County Water Agency, State Water Contractors, San Luis & Delta Mendota Water Authority, Westlands Water District and Santa Clara Valley Water District. On July 25, 2012, Governor Jerry Brown and Secretary of the Interior Ken Salazar announced key proposed elements to advance the BDCP planning process, including north Bay-Delta water diversion facilities with a total capacity of 9,000 cubic-feet per second ("cfs"), two tunnels sized to minimize energy use during operations and a "decision tree" process for unresolved operation criteria such as fall and spring outflows. Preliminary cost estimates for the conveyance portion of this project alternative are approximately $14 billion. When a decision selecting the final project has been made, costs will be updated and allocated. Metropolitan anticipates that it could bear approximately 25 percent of the costs of the conveyance portion of the project.

Sacramento Regional County Sanitation District Litigation. Metropolitan, along with other State and federal water contractors, has urged action to address water quality concerns with respect to both the aquatic health of the Bay-Delta and drinking water quality. On December 9, 2010, the Central Valley Regional Water Quality Control Board ("Regional Board") approved a National Pollutant Discharge Elimination System ("NPDES") permit for the Sacramento Regional County Sanitation District ("Sanitation District") setting water-quality based requirements for the Sanitation District's wastewater treatment plant that will require advanced treatment upgrades for the Sanitation District's wastewater facility. The Sanitation District's treatment plant is the largest wastewater discharger into the Bay-Delta. The treatment plant provides only a secondary level of treatment and discharges nutrients, pathogens, and total organic carbon into the Bay-Delta water supply. The treatment plant's discharge of nitrogen, particularly ammonia, has been shown to be altering the food chain in the estuary to the detriment of Delta smelt and other native species. The NPDES permit calls for a significant reduction of the nitrogen and particularly ammonia discharge which will require full nitrification and denitrification treatment by 2020, as well as tertiary filtration treatment to meet pathogen removal requirements. The NPDES permit also includes additional permit limits and monitoring requirements for other water quality constituents, including toxic contaminants.

The Sanitation District petitioned the SWRCB for review of the NPDES permit. SWRCB adopted a final order at a December 4, 2012 hearing, which concludes the administrative appeal process. The SWRCB's final order rejects the Sanitation District's arguments, upholds the substantive requirements of the NPDES permit and will impose new more stringent water quality limits. Although the administrative appeal before the SWRCB was then pending, on December 30, 2011, the Sanitation District filed a lawsuit in Sacramento Superior Court against the Regional Board and SWRCB seeking to overturn and relax the NPDES permit. Metropolitan and other water agencies that participated in the NPDES permitting process intervened in the superior court case. On April 29, 2013, in a partial settlement of the litigation, the Sanitation District agreed to drop its challenge of the NPDES permit requirements for ammonia and nitrate removal. As part of the settlement, the Sanitation District will comply with a set of milestones resulting in completion of the construction of treatment facilities necessary for full nitrification and denitrification by 2021. This leaves a cause of action concerning pathogens and filtration requirements to be litigated. In exchange for dropping the ammonia and nitrate challenge, the Sanitation District is receiving two additional years to meet filtration and disinfection requirements, should those requirements remain following conclusion of the litigation.

Metropolitan, other urban State Water Contractor agencies and the Contra Costa Water District earlier brought a successful CEQA challenge in response to significant, unmitigated water quality impacts that would occur from a planned expansion of the Sanitation District's treatment plant. The Sanitation District appealed the trial court ruling and the case remains pending in the Third District Court of Appeal awaiting oral argument.

California Water Impact Network Litigation. On September 3, 2010, the California Water Impact Network and two other non-profit organizations filed a petition for writ of mandate and for declaratory and injunctive relief in Sacramento Superior Court against the SWRCB and DWR. The petition alleges that by permitting and carrying out the export of large volumes of water from the Delta through the State Water Project, the SWRCB and DWR have failed to protect public trust fishery resources in the Delta; have been

diverting water from the Bay-Delta wastefully and unreasonably in violation of the prohibition against waste and unreasonable use in the California Constitution; and have failed to enforce and comply with water quality and beneficial use standards in D-1641, the 1995 SWRCB Water Quality Control Plan, and the Porter-Cologne Act. Among the relief sought in the petition is an injunction against Bay-Delta exports by the State Water Project pending compliance with the various laws and administrative orders that are alleged to have been violated. The State Water Contractors filed a motion to intervene in this action, which was granted on March 25, 2011. The court has ordered the plaintiffs to include the Bureau of Reclamation as a party. In response, the Bureau of Reclamation has asserted that federal sovereign immunity bars their inclusion in the state court action. If the court determines that the Bureau of Reclamation is an indispensable party, the lawsuit, or portions of it, may be dismissed.

Monterey Agreement Litigation. On September 15, 2000, the Third District Court of Appeal for the State of California issued its decision in *Planning and Conservation League; Citizens Planning Association of Santa Barbara County and Plumas County Flood Control District v. California Department of Water Resources and Central Coast Water Authority*. This case was an appeal of a challenge to the adequacy of the environmental documentation prepared with respect to certain amendments to the State Water Contract (the "Monterey Agreement") which reflects the settlement of certain disputes regarding the allocation of State Water Project water. The Court of Appeal held that the environmental documentation was defective in failing to analyze the environmental effects of the Monterey Agreement's elimination of the permanent shortage provisions of the State Water Contract. The parties negotiated a settlement agreement in the fall of 2002, which allows continued operation of the State Water Project under the Monterey Agreement principles while a new EIR was prepared. DWR completed the final EIR and concluded the remedial CEQA review for the project on May 4, 2010. Following DWR's completion of the EIR, three new lawsuits were filed challenging the project. Central Delta Water Agency, South Delta Water Agency, California Water Impact Network, California Sportfishing Protection Alliance, and the Center For Biological Diversity filed a lawsuit against DWR in Sacramento County Superior Court challenging the validity of the EIR under CEQA and the validity of underlying agreements under a reverse validation action (the "*Central Delta I*" case). These same plaintiffs filed a reverse validation lawsuit against the Kern County Water Agency in Kern County Superior Court ("*Central Delta II*"). This lawsuit targets a transfer of land from Kern County Water Agency to the Kern Water Bank, which was completed as part of the original Monterey Amendments. The third lawsuit is an EIR challenge brought by Rosedale-Rio Bravo Water Storage District and Buena Vista Water Storage District against DWR in Kern County Superior Court. The two Kern County cases have been transferred to Sacramento Superior Court and the three cases consolidated for trial. The Central Delta II case was stayed pending resolution of the Central Delta I case. In January 2013, the Court ruled that the validation cause of action in Central Delta I is time barred by the statute of limitations. The Court has scheduled a hearing on the merits of the CEQA claims for January 31, 2014. Any adverse impact of this litigation on Metropolitan's State Water Project supplies cannot be determined at this time.

Colorado River Aqueduct

General. The Colorado River was Metropolitan's original source of water after Metropolitan's establishment in 1928. Metropolitan has a legal entitlement to receive water from the Colorado River under a permanent service contract with the Secretary of the Interior. Water from the Colorado River and its tributaries is also available to other users in California, as well as users in the states of Arizona, Colorado, Nevada, New Mexico, Utah, and Wyoming (the "Colorado River Basin States"), resulting in both competition and the need for cooperation among these holders of Colorado River entitlements. In addition, under a 1944 treaty, Mexico has an allotment of 1.5 million acre-feet of Colorado River water annually except in the event of extraordinary drought or serious accident to the delivery system in the United States, in which event the water allotted to Mexico would be curtailed. Mexico also can schedule delivery of an additional 200,000 acre-feet of Colorado River water per year if water is available in excess of the requirements in the United States and the 1.5 million acre-feet allotted to Mexico.

The Colorado River Aqueduct, which is owned and operated by Metropolitan, transports water from the Colorado River approximately 242 miles to its terminus at Lake Mathews in Riverside County. After deducting for conveyance losses and considering maintenance requirements, up to 1.25 million acre-feet of water a year may be conveyed through the Colorado River Aqueduct to Metropolitan's member agencies, subject to availability of Colorado River water for delivery to Metropolitan as described below.

California is apportioned the use of 4.4 million acre-feet of water from the Colorado River each year plus one-half of any surplus that may be available for use collectively in Arizona, California and Nevada. In addition, California has historically been allowed to use Colorado River water apportioned to but not used by Arizona or Nevada when such supplies have been requested for use in California. Under the 1931 priority system that has formed the basis for the distribution of Colorado River water made available to California, Metropolitan holds the fourth priority right to 550,000 acre-feet per year. This is the last priority within California's basic apportionment. In addition, Metropolitan holds the fifth priority right to 662,000 acre-feet of water, which is in excess of California's basic apportionment. See the table "PRIORITIES UNDER THE 1931 CALIFORNIA SEVEN-PARTY AGREEMENT" below. Until 2003, Metropolitan had been able to take full advantage of its fifth priority right as a result of the availability of surplus water and apportioned but unused water. However, during the 1990s Arizona and Nevada increased their use of water from the Colorado River, utilizing their respective basic apportionments by 2002 and significantly reducing unused apportionment available for California. In addition, a severe drought in the Colorado River Basin reduced storage in system reservoirs, such that Metropolitan stopped taking surplus deliveries in 2003 in an effort to mitigate the effects of the drought. Prior to 2003, Metropolitan could divert over 1.2 million acre-feet in any year, but since that time, Metropolitan's net diversions of Colorado River water have been limited to a low of nearly 633,000 acre-feet in 2006 and a high of 1,105,232 acre-feet in 2009. Average annual net deliveries for 2003 through 2012 were approximately 821,000 acre-feet, with annual volumes dependent primarily on programs to augment supplies, including transfers of conserved water from agriculture. Metropolitan's Colorado River supply was nearly 900,000 acre-feet in 2012, of which approximately 739,000 acre-feet was delivered through the Colorado River Aqueduct and about 161,000 acre-feet of intentionally-created surplus water was stored in Lake Mead. See "*—Quantification Settlement Agreement*" and "*—Interim Surplus Guidelines*" below.

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PRIORITIES UNDER THE 1931 CALIFORNIA SEVEN-PARTY AGREEMENT[1]

Priority	Description	Acre-Feet Annually
1	Palo Verde Irrigation District gross area of 104,500 acres of land in the Palo Verde Valley	3,850,000
2	Yuma Project in California not exceeding a gross area of 25,000 acres in California	
3(a)	Imperial Irrigation District and other lands in Imperial and Coachella Valleys[2] to be served by All-American Canal	
3(b)	Palo Verde Irrigation District - 16,000 acres of land on the Lower Palo Verde Mesa	
4	Metropolitan Water District of Southern California for use on the coastal plain	550,000
	SUBTOTAL	4,400,000
5(a)	Metropolitan Water District of Southern California for use on the coastal plain	550,000
5(b)	Metropolitan Water District of Southern California for use on the coastal plain[3]	112,000
6(a)	Imperial Irrigation District and other lands in Imperial and Coachella Valleys to be served by the All-American Canal	300,000
6(b)	Palo Verde Irrigation District - 16,000 acres of land on the Lower Palo Verde Mesa	
	TOTAL	5,362,000
7	Agricultural use in the Colorado River Basin in California	Remaining surplus

Source: Metropolitan.

(1) Agreement dated August 18, 1931, among Palo Verde Irrigation District, Imperial Irrigation District, Coachella Valley County Water District, Metropolitan, the City of Los Angeles, the City of San Diego and the County of San Diego. These priorities were memorialized in the agencies' respective water delivery contracts with the Secretary of the Interior.

(2) The Coachella Valley Water District serves Coachella Valley.

(3) In 1946, the City of San Diego, the San Diego County Water Authority, Metropolitan and the Secretary of the Interior entered into a contract that merged and added the City and County of San Diego's rights to storage and delivery of Colorado River water to the rights of Metropolitan.

Metropolitan has taken steps to augment its share of Colorado River water through agreements with other agencies that have rights to use such water. Under a 1988 water conservation agreement (the "1988 Conservation Agreement") between Metropolitan and the Imperial Irrigation District ("IID"), Metropolitan provided funding for IID to construct and operate a number of conservation projects that are currently conserving up to 105,000 acre-feet of water per year that is provided to Metropolitan. Under the October 2003 Quantification Settlement Agreement and related agreements, Metropolitan, at the request of Coachella Valley Water District ("CVWD"), forgoes up to 20,000 acre-feet of this water each year for diversion by CVWD. See "*–Quantification Settlement Agreement*" below. In 2010 and 2011 CVWD's requests were for 8,000 and 4,000 acre-feet respectively, leaving 97,000 acre-feet in 2010 and 99,940 acre-feet in 2011 for Metropolitan. In 1992, Metropolitan entered into an agreement with the Central Arizona Water Conservation

District ("CAWCD") to demonstrate the feasibility of CAWCD storing Colorado River water in central Arizona for the benefit of an entity outside of the State of Arizona. Pursuant to this agreement, CAWCD created 80,909 acre-feet of long-term storage credits that may be recovered by CAWCD for Metropolitan. Metropolitan, the Arizona Water Banking Authority, and CAWCD executed an amended agreement for recovery of these storage credits in December 2007. All 80,909 acre-feet were recovered and delivered to Metropolitan between 2007 and 2010.

Metropolitan and the Palo Verde Irrigation District ("PVID") signed the program agreement for a Land Management, Crop Rotation and Water Supply Program in August 2004. This program provides up to 133,000 acre-feet of water to be available to Metropolitan in certain years. The term of the program is 35 years. Fallowing began on January 1, 2005. In March 2009, Metropolitan and PVID entered into a supplemental fallowing program within PVID that provided for the fallowing of additional acreage in 2009 and 2010. In calendar years 2009 and 2010, respectively, 24,100 acre-feet and 32,300 acre-feet of water were saved and made available to Metropolitan under the supplemental program. The following table shows annual volumes of water saved and made available to Metropolitan:

WATER AVAILABLE FROM PVID LAND MANAGEMENT, CROP ROTATION AND WATER SUPPLY PROGRAM

Calendar Year	Volume (acre-feet)
2005	108,700
2006	105,000
2007	72,300
2008	94,300
2009*	144,300
2010*	148,600
2011	122,200
2012	74,000

Source: Metropolitan.

* Includes water from the supplemental fallowing program that provided for fallowing of additional acreage in 2009 and 2010.

In May 2008, Metropolitan provided $28.7 million to join the CAWCD and the Southern Nevada Water Authority ("SNWA") in funding the Bureau of Reclamation's construction of an 8,000 acre-foot off-stream regulating reservoir near Drop 2 of the All-American Canal in Imperial County (officially renamed the Warren H. Brock Reservoir). Construction was completed in October 2010. The Warren H. Brock Reservoir is expected to conserve about 70,000 acre-feet of water per year by capturing and storing otherwise non-storable water flow. The Bureau of Reclamation has refunded to Metropolitan $2.43 million in unused contingency funds. In return for its funding, Metropolitan received 100,000 acre-feet of water that is stored in Lake Mead, with the ability to deliver up to 40,000 acre-feet of water in any one year. Besides the additional water supply, the new reservoir adds to the flexibility of Colorado River operations.

In September 2009, Metropolitan authorized participation with SNWA, the Colorado River Commission of Nevada, the CAWCD and the Bureau of Reclamation in the pilot operation of the Yuma Desalting Plant. The Bureau of Reclamation concluded the pilot operation of the Yuma Desalting Plant in March 2011. Metropolitan's contribution for the funding agreement was $8,395,313. Metropolitan's yield from the pilot run of the project was 24,397 acre-feet.

In November 2012, Metropolitan executed agreements in support of a program to augment Metropolitan's Colorado River supply from 2013 through 2017 through an international pilot project in Mexico. Metropolitan's share of the costs will be $5 million for a total of 47,500 acre-feet of project supplies.

The costs will be paid between 2014 and 2017, and the conserved water will be credited to Metropolitan's intentionally-created surplus water account in 2017. See "*— Intentionally-Created Surplus Program*" below.

Quantification Settlement Agreement. The Quantification Settlement Agreement ("QSA"), executed by CVWD, IID and Metropolitan in October 2003, establishes Colorado River water use limits for IID and CVWD, provides for specific acquisitions of conserved water and water supply arrangements for up to 75 years, and restored the opportunity for Metropolitan to receive any "special surplus water" under the Interim Surplus Guidelines. See "*–Interim Surplus Guidelines*" below. The QSA also allows Metropolitan to enter into other cooperative Colorado River supply programs. Related agreements modify existing conservation and cooperative water supply agreements consistent with the QSA, and set aside several disputes among California's Colorado River water agencies.

Specific programs under the QSA include lining portions of the All-American and Coachella Canals, which conserve approximately 96,000 acre-feet annually. As a result, about 80,000 acre-feet of conserved water is delivered to the San Diego County Water Authority ("SDCWA") by exchange with Metropolitan. Metropolitan also takes delivery of 16,000 acre-feet annually that will be made available for the benefit of the La Jolla, Pala, Pauma, Rincon and San Pasqual Bands of Mission Indians, the San Luis Rey River Indian Water Authority, the City of Escondido and the Vista Irrigation District, upon completion of a water rights settlement, expected in 2013. An amendment to the 1988 Conservation Agreement between Metropolitan and IID and an associated 1989 Approval Agreement among Metropolitan, IID, CVWD and PVID, extended the term of the 1988 Conservation Agreement and limited the single year amount of water used by CVWD to 20,000 acre-feet. Also included under the QSA is the Delivery and Exchange Agreement between Metropolitan and CVWD that provides for Metropolitan to deliver annually up to 35,000 acre-feet of Metropolitan's State Water Project contractual water to CVWD by exchange with Metropolitan's available Colorado River supplies. In calendar year 2011, under a supplemental agreement with CVWD, Metropolitan delivered 105,000 acre-feet which consisted of the full 35,000 acre-feet for 2011 plus advance delivery of the full contractual amounts for 2012 and 2013. In 2021, the transfer of water conserved annually by IID to SDCWA is expected to reach 205,000 acre-feet. See description below under the caption "*—Sale of Water by the Imperial Irrigation District to San Diego County Water Authority*"; see also "METROPOLITAN REVENUES—Principal Customers" in this Appendix A. With full implementation of the programs identified in the QSA, at times when California is limited to its basic apportionment of 4.4 million acre-feet per year, Metropolitan expects to be able to annually divert to its service area approximately 850,000 acre-feet of Colorado River water plus water from other water augmentation programs it develops, including the PVID program, which provides up to approximately 130,000 acre-feet of water per year. (Amounts of Colorado River water received by Metropolitan in 2003 through 2012 are discussed under the heading "—Colorado River Aqueduct—*General*" above.)

A complicating factor in completing the QSA was the fate of the Salton Sea, an important habitat for a wide variety of fish-eating birds as a stopover spot along the Pacific flyway. Some of these birds are listed as threatened or endangered species under the State and Federal ESAs. Located at the lowest elevations of an inland basin and fed primarily by agricultural drainage with no outflows other than evaporation, the Salton Sea is trending towards hyper-salinity, which has already impacted the Salton Sea's fishery. Without mitigation, the transfer of water from IID to SDCWA, one of the core programs implemented under the QSA, would reduce the volume of agricultural run-off from IID into the Salton Sea, which in turn would accelerate this natural trend of the Salton Sea to hyper-salinity. See "*—Sale of Water by the Imperial Irrigation District to San Diego County Water Authority*" below. In passing legislation to implement the QSA, the State Legislature committed the State to undertake restoration of the Salton Sea ecosystem. Restoration of the Salton Sea is subject to selection and approval of an alternative by the Legislature and funding of the associated capital improvements and operating costs. The Secretary for the California Natural Resources Agency submitted an $8.9-billion preferred alternative for restoration of the Salton Sea to the Legislature in May 2007. While withholding authorization of the preferred alternative, the Legislature has appropriated funds from Proposition 84 to undertake demonstration projects and investigations called for in the Secretary's recommendation. On September 25, 2010, then-Governor Schwarzenegger signed Senate Bill 51,

establishing the "Salton Sea Restoration Council" as a state agency in the Natural Resources Agency to oversee restoration of the Salton Sea. The council was directed to evaluate alternative Salton Sea restoration plans and to report to the Governor and the Legislature by June 30, 2013 with a recommended plan.

The QSA implementing legislation also established the Salton Sea Restoration Fund, to be funded in part by payments made by the parties to the QSA and fees on certain water transfers among the parties to the QSA. Under the QSA agreements Metropolitan agreed to pay $20 per acre-foot into the Salton Sea Restoration Fund for any special surplus Colorado River water that Metropolitan elects to take under the Interim Surplus Guidelines, if available. Metropolitan also agreed to acquire up to 1.6 million acre-feet of water conserved by IID, excluding water transferred from IID to SDCWA (see "*—Sale of Water by the Imperial Irrigation District to San Diego County Water Authority*" below), if such water can be transferred consistent with plans for Salton Sea restoration, at an acquisition price of $250 per acre-foot (in 2003 dollars), with net proceeds to be deposited into the Salton Sea Restoration Fund. No conserved water has been made available to Metropolitan under this program. As part of an effort to mitigate the effects of the drought in the Colorado River Basin that began in 2000, Metropolitan elected not to take delivery of special surplus Colorado River water that was available from October 2003 through 2004 and from 2006 through 2007. No special surplus water has been available since 2007. Metropolitan may receive credit for the special surplus water payments against future contributions for the Lower Colorado River Multi-Species Conservation Program (see "*—Environmental Considerations*" below). In consideration of these agreements, Metropolitan will not have or incur any liability for restoration of the Salton Sea.

Sale of Water by the Imperial Irrigation District to San Diego County Water Authority. On April 29, 1998, SDCWA and IID executed an agreement (the "Transfer Agreement") for SDCWA's purchase from IID of Colorado River water that is conserved within IID. An amended Transfer Agreement, executed as one of the QSA agreements, set the maximum transfer amount at 205,000 acre-feet in 2021, with the transfer gradually ramping up to that amount over an approximately twenty-year period, stabilizing at 200,000 acre-feet per year beginning in 2023.

No facilities exist to deliver water directly from IID to SDCWA. Accordingly, Metropolitan and SDCWA entered into an exchange contract, pursuant to which SDCWA makes available to Metropolitan at its intake at Lake Havasu on the Colorado River the conserved Colorado River water acquired by SDCWA from IID and water allocated to SDCWA that has been conserved as a result of the lining of the All-American and Coachella Canals. See "*—Quantification Settlement Agreement*" above. Metropolitan delivers an equal volume of water from its own sources of supply through portions of its delivery system to SDCWA. The deliveries to both Metropolitan and SDCWA are deemed to be made in equal monthly increments. In consideration for the conserved water made available to Metropolitan by SDCWA, a lower rate is paid by SDCWA for the exchange water delivered by Metropolitan. The price payable by SDCWA is calculated using the charges set by Metropolitan's Board from time to time to be paid by its member agencies for the conveyance of water through Metropolitan's facilities. See "METROPOLITAN REVENUES–Wheeling and Exchange Charges" and "–Litigation Challenging Rate Structure" in this Appendix A for a description of Metropolitan's charges for the conveyance of water through Metropolitan's facilities and litigation in which SDCWA and IID are challenging such charges. In 2009, 140,188 acre-feet were delivered by SDCWA for exchange, consisting of 60,000 acre-feet of IID conservation plus 25,759 acre-feet and 54,429 acre-feet of conserved water from the Coachella Canal and All-American Canal lining projects, respectively. In 2010, 151,507 acre-feet were delivered by SDCWA for exchange, consisting of 70,000 acre-feet of IID conservation plus 81,507 acre-feet of conserved water from the combined Coachella Canal and All-American Canal lining projects. In 2011, 143,243 acre-feet were delivered by SDCWA for exchange, consisting of 63,278 acre-feet of IID conservation plus 79,965 acre-feet of conserved water from the Coachella Canal and All-American Canal lining projects.

The QSA agreements provided for delivery of 80,000 acre-feet of water conserved by IID in 2011. The delivery of conserved water fell short by 16,722 acre-feet. In accordance with the terms of the exchange contract, Metropolitan served SDCWA with a Notice of Default. The exchange contract provides that

SDCWA will pay the lower water rate based on deliveries of exchange water that match the volume of conserved water made available by IID in each calendar year. Metropolitan has invoiced SDCWA for its higher water rate on the 16,722 acre-feet of additional non-exchange water delivered in 2011. SDCWA paid this invoice under protest. Metropolitan has agreed to exchange with SDCWA up to an additional 16,722 acre-feet in 2012 if IID delivers that volume of conserved water after IID has met its 2012 obligation of 90,000 acre-feet.

QSA Related Litigation. On November 5, 2003, IID filed a validation action in Imperial County Superior Court, seeking a judicial determination that thirteen agreements associated with the IID/SDCWA water transfer and the QSA are valid, legal and binding. Other lawsuits also were filed contemporaneously challenging the execution, approval and implementation of the QSA on various grounds. All of the QSA cases were coordinated in Sacramento Superior Court. Between early 2004 and late 2009, a number of pre-trial challenges and dispositive motions were filed by the parties and ruled on by the court, which reduced the number of active cases and narrowed the issues for trial, the first phase of which began on November 9, 2009 and concluded on December 2, 2009. One of the key issues in this first phase was the constitutionality of the QSA Joint Powers Agreement, pursuant to which IID, CVWD and SDCWA agreed to commit $163 million toward certain mitigation and restoration costs associated with implementation of the QSA and related agreements, and the State agreed to be responsible for any costs exceeding this amount. A final judgment was issued on February 11, 2010, in which the trial court held that the State's commitment was unconditional in nature and, as such, violated the appropriation requirement and debt limitation under the California Constitution. The trial court also invalidated eleven other agreements, including the QSA, because they were inextricably interrelated with the QSA Joint Powers Agreement. Lastly, the trial court ruled that all other claims raised by the parties, including CEQA claims related to the QSA Programmatic EIR and the IID Transfer Project EIR, are moot.

In March 2010, Metropolitan, IID, CVWD, SDCWA, the State and others filed notices of appeal challenging various aspects of the trial court's ruling. On December 7, 2011, the court of appeal issued its ruling reversing, in part, the trial court's ruling. In particular, the court of appeal held that while the State's commitment to fund mitigation costs in excess of $163 million was unconditional, actual payment of such costs was subject to a valid appropriation by the Legislature, as required under the California Constitution. Moreover, the State's commitment did not create a present debt in excess of the State Constitution's $300,000 debt limit. Thus, the QSA Joint Powers Agreement was held to be constitutional. The court of appeal also rejected other challenges to this agreement, including that it was beyond the State's authority, there was no "meeting of the minds," and there was a conflict of interest. In light of its ruling, the court of appeal remanded the matter back to the trial court for further proceedings on the claims that had been previously dismissed as moot. A two-day bench trial was held on November 13, 2012. On June 4, 2013 the trial court issued its ruling, holding that IID had acted within its authority in executing these agreements and had complied with all substantive and procedural requirements imposed under State law. In addition, the court held that the environmental reviews conducted in support of the QSA and related agreements complied with CEQA and its implementing regulations in all respects. In short, the trial court rejected all of the claims asserted by opponents of the QSA. Once the court issues a final statement of decision and enters a final judgment in this case, parties objecting to the ruling will have 60 days to file an appeal. The impact, if any, that this litigation might have on Metropolitan's water supplies cannot be adequately determined at this time.

On January 28, 2010, Metropolitan was served with a federal complaint filed by the County of Imperial and the Imperial County Air Pollution Control District alleging that execution and implementation of three QSA-related agreements violate NEPA and the federal Clean Air Act. The complaint named the Department of the Interior, Secretary of the Interior, Bureau of Reclamation and Commissioner of Reclamation as defendants, and Metropolitan, CVWD, IID and SDCWA as real parties in interest. With respect to NEPA, the complaint alleged that the environmental impact statement prepared by the Bureau of Reclamation; failed to adequately analyze potential impacts on the Salton Sea and on land use, growth and socioeconomics; improperly segmented various project components; failed to address cumulative impacts; and failed to address mitigation of potential impacts. With respect to the Clean Air Act, the complaint alleged

that the Bureau of Reclamation failed to conduct a conformity analysis as required under the Act and Imperial County Air Pollution Control District's own rules. On April 6, 2012, the court ruled against the plaintiffs and in favor of the defendants on all claims. The court held that the plaintiffs lacked standing to pursue NEPA and Clean Air Act claims and that the NEPA claims lacked merit. On May 4, 2012, the plaintiffs filed a notice of appeal. On May 22, 2012, the non-federal defendants filed a notice of cross-appeal. Briefing on all appeals is expected to be completed by the middle of 2013.

Navajo Nation Litigation. The Navajo Nation filed litigation against the Department of the Interior, specifically the Bureau of Reclamation and the Bureau of Indian Affairs, in 2003, alleging that the Bureau of Reclamation has failed to determine the extent and quantity of the water rights of the Navajo Nation in the Colorado River and that the Bureau of Indian Affairs has failed to otherwise protect the interests of the Navajo Nation. The complaint challenges the adequacy of the environmental review for the Interim Surplus Guidelines (as defined under "*—Interim Surplus Guidelines*" below) and seeks to prohibit the Department of the Interior from allocating any "surplus" water until such time as a determination of the rights of the Navajo Nation is completed. Metropolitan and other California water agencies filed motions to intervene in this action. In October 2004 the court granted the motions to intervene and stayed the litigation to allow negotiations among the Navajo Nation, federal defendants, CAWCD, State of Arizona and Arizona Department of Water Resources. After years of negotiations, a tentative settlement was proposed in 2012 that would provide the Navajo Nation with specified rights to water from the Little Colorado River and groundwater basins under the reservation, along with federal funding for development of water supply systems on the tribe's reservation. The proposed agreement was rejected by tribal councils for both the Navajo and the Hopi, who are now seeking to intervene. On May 16, 2013, the stay of proceedings was lifted. On June 3, 2013, the Navajo Nation filed for leave to file a first amended complaint. The proposed amended complaint added a legal challenge to guidelines adopted by the Secretary of the Interior in 2007 that allow Metropolitan, and other Colorado River water users, to store water in Lake Mead. Metropolitan has used these new guidelines to store over 500,000 acre-feet of water in Lake Mead that may be delivered at Metropolitan's request in future years. Metropolitan will actively participate in the litigation to defend its rights under the Secretary of the Interior's guidelines governing operation of the Colorado River. The impact of the litigation on Metropolitan, if any, cannot be adequately determined at this time.

Interim Surplus Guidelines. In January 2001, the Secretary of the Interior adopted guidelines (the "Interim Surplus Guidelines") for use through 2016 in determining if there is surplus Colorado River water available for use in California, Arizona and Nevada. The purpose of the Interim Surplus Guidelines is to provide a greater degree of predictability with respect to the availability and quantity of surplus water through 2016. The Interim Surplus Guidelines were amended in 2007, with the new Guidelines extending through 2026 (see "*—Lower Basin Shortage Guidelines and Coordinated Management Strategies for Lake Powell and Lake Mead*" below). The Interim Surplus Guidelines contain a series of benchmarks for reductions in agricultural use of Colorado River water within California by set dates.

Under the Interim Surplus Guidelines, Metropolitan initially expected to divert up to 1.25 million acre-feet of Colorado River water annually under foreseeable runoff and reservoir storage scenarios from 2004 through 2016. However, an extended drought in the Colorado River Basin reduced these initial expectations. On May 16, 2002 SNWA and Metropolitan entered into an Agreement Relating to Implementation of Interim Colorado River Surplus Guidelines, in which SNWA and Metropolitan agreed to the allocation of unused apportionment as provided in the Interim Surplus Guidelines and on the priority of SNWA for interstate banking of water in Arizona. SNWA and Metropolitan entered into a storage and interstate release agreement on October 21, 2004. Under this program, Nevada can request that Metropolitan store unused Nevada apportionment in California. The amount of water stored through 2011 under this agreement was 70,000 acre-feet. In subsequent years, Nevada may request recovery of this stored water. As part of a recently executed amendment, it is expected that Nevada will not request return of this water before 2022. The stored water provides flexibility to Metropolitan for blending Colorado River water with State Water Project water and improves near-term water supply reliability.

Lower Basin Shortage Guidelines and Coordinated Management Strategies for Lake Powell and Lake Mead. In November 2007, the Bureau of Reclamation issued a Final Environmental Impact Statement ("EIS") regarding new federal guidelines concerning the operation of the Colorado River system reservoirs. These new guidelines provide water release criteria from Lake Powell and water storage and water release criteria from Lake Mead during shortage and surplus conditions in the Lower Basin, provide a mechanism for the storage and delivery of conserved system and non-system water in Lake Mead and extend the Interim Surplus Guidelines through 2026. The Secretary of the Interior issued the final guidelines through a Record of Decision signed in December 2007. The Record of Decision and accompanying agreement among the Colorado River Basin States protect reservoir levels by reducing deliveries during drought periods, encourage agencies to develop conservation programs and allow the Colorado River Basin States to develop and store new water supplies. The Colorado River Basin Project Act of 1968 insulates California from shortages in all but the most extreme hydrologic conditions.

Intentionally-Created Surplus Program. Metropolitan and the Bureau of Reclamation executed an agreement on May 26, 2006 for a demonstration program that allowed Metropolitan to leave conserved water in Lake Mead that Metropolitan would otherwise have used in 2006 and 2007. Only "intentionally-created surplus" water (water that has been conserved through an extraordinary conservation measure, such as land fallowing) was eligible for storage in Lake Mead under this program. See the table "Metropolitan's Water Storage Capacity and Water in Storage" under the heading "—Storage Capacity and Water in Storage" below. Metropolitan may store additional intentionally-created surplus water in Lake Mead under the federal guidelines for operation of the Colorado River system reservoirs described above under the heading "*Lower Basin Shortage Guidelines and Coordinated Management Strategies for Lake Powell and Lake Mead.*" The Secretary of the Interior will deliver intentionally-created surplus water to Metropolitan in accordance with the terms of a December 13, 2007 Delivery Agreement between the United States and Metropolitan. As of January 2013, Metropolitan had approximately 572,200 acre-feet in its intentionally-created surplus accounts, made up of water conserved by fallowing in the Palo Verde Valley and from the yield allocated to Metropolitan from the Drop 2 Reservoir Project and the Yuma Desalting Plant pilot run. Metropolitan estimates that it stored over 161,000 acre-feet of intentionally-created surplus water in 2012.

Environmental Considerations. Federal and state environmental laws protecting fish species and other wildlife species have the potential to affect Colorado River operations. A number of species that are on either "endangered" or "threatened" lists under the ESAs are present in the area of the Lower Colorado River, including among others, the bonytail chub, razorback sucker, southwestern willow flycatcher and Yuma clapper rail. To address this issue, a broad-based state/federal/tribal/private regional partnership that includes water, hydroelectric power and wildlife management agencies in Arizona, California and Nevada have developed a multi-species conservation program for the main stem of the Lower Colorado River (the Lower Colorado River Multi-Species Conservation Program or "MSCP"). The MSCP allows Metropolitan to obtain federal and state permits for any incidental take of protected species resulting from current and future water and power operations of its Colorado River facilities and to minimize any uncertainty from additional listings of endangered species. The MSCP also covers operations of federal dams and power plants on the river that deliver water and hydroelectric power for use by Metropolitan and other agencies. The MSCP covers 27 species and habitat in the Lower Colorado River from Lake Mead to the Mexican border for a term of 50 years. Over the 50 year term of the program, the total cost to Metropolitan will be about $88.5 million (in 2003 dollars), and annual costs will range between $0.8 million and $4.7 million (in 2003 dollars).

Quagga Mussel Control Program. In January 2007 quagga mussels were discovered in Lake Mead. Quagga mussels can reproduce quickly and, if left unmanaged, can clog intakes and raw water conveyance systems, alter or destroy fish habitats and affect lakes and beaches. Quagga mussels were introduced in the Great Lakes in the late 1980s. These organisms infest much of the Great Lakes basin, the St. Lawrence Seaway, and much of the Mississippi River drainage system. The most likely source of the quagga mussel infestation in the Colorado River is recreational boats with exposure to water bodies around the Great Lakes. Metropolitan developed a program in 2007 to address the long term introduction of mussel larvae into the Colorado River Aqueduct from the Lower Colorado River, which is now heavily colonized from Lake Mead

through Lake Havasu. The quagga mussel control program consists of surveillance activities and control measures. Surveillance activities are conducted annually in conjunction with regularly scheduled two- to three-week long Colorado River Aqueduct shutdowns, which have the added benefit of desiccating exposed quagga mussels. Control activities consist of continuous chlorination at Copper Basin, quarterly use of a mobile chlorinator at outlet towers and physical removal of mussels from the trash racks in Lake Havasu. Recent shutdown inspections have demonstrated that the combined use of chlorine and regularly scheduled shutdowns effectively control mussel infestation in the Colorado River Aqueduct.

Metropolitan is working to enhance its ability to detect the mussels, studying mussel transport and settling in Metropolitan conveyance systems, assessing additional, more cost-effective methods to control mussels and developing and implementing control strategies for mussels in Metropolitan's lakes and reservoirs. The California Department of Fish and Game has approved Metropolitan's recreational facilities and boating plan for Diamond Valley Lake and Lake Skinner, which requires inspection of boats and quarantine of those that are potential carriers of mussels, and Metropolitan's water releases management plan, which should minimize the potential for mussels to be introduced into new water bodies while allowing for water releases associated with dewatering of aqueducts and pipelines for maintenance, repair, or upgrades. In addition, the California Department of Fish and Game provided Metropolitan with a permit approving laboratory research on quagga mussels to advance the understanding of mussel biology in California and benefit future efforts to manage the invasive species. Future quagga mussel control efforts are expected to include infrastructure upgrades and recommendations on boating practices or additional facilities to control the spread of mussels in the Colorado River Aqueduct system and additional long-term measures. In September 2007, the Board appropriated $5.91 million for design and construction of interim chlorination facilities at Copper Basin and Lake Mathews, design of permanent chlorination facilities at Copper Basin, Lake Mathews and Diamond Valley Lake and related quagga mussel control measures. In February 2008, the Board appropriated $1.77 million for a new chlorine injection point at the Lake Skinner Outlet Conduit and for the procurement of liquid chlorine trailers and mobile chlorination units. In August 2008, the Board appropriated an additional $1.87 million to complete the chlorination facilities at Copper Basin and Lake Mathews and in June 2009, the Board appropriated $1.13 million for design and construction of a chlorination system to control quagga mussel growth at the Skinner oxidation retrofit facilities. Metropolitan estimates that its costs for controlling quagga mussels could exceed $10 million per year.

Water Transfer, Storage and Exchange Programs

General. California's agricultural activities consume approximately 34 million acre-feet of water annually, which is approximately 80 percent of the total water used for agricultural and urban uses and 40 percent of the water used for all consumptive uses, including environmental demands. Voluntary water transfers and exchanges can make a portion of this agricultural water supply available to support the State's urban areas. Such existing and potential water transfers and exchanges are an important element for improving the water supply reliability within Metropolitan's service area and accomplishing the reliability goal set by Metropolitan's Board. Metropolitan is currently pursuing voluntary water transfer and exchange programs with State, federal, public and private water districts and individuals. The following are summary descriptions of some of these programs.

Arvin-Edison/Metropolitan Water Management Program. In December 1997, Metropolitan entered into an agreement with the Arvin-Edison Water Storage District ("Arvin-Edison"), an irrigation agency located southeast of Bakersfield, California. Under the program, Arvin-Edison stores water on behalf of Metropolitan. In January 2008, Metropolitan and Arvin-Edison amended the agreement to enhance the program's capabilities and to increase the delivery of water to the California Aqueduct. Up to 350,000 acre-feet of Metropolitan's water may be stored and Arvin-Edison is obligated to return up to 75,000 acre-feet of stored water in any year to Metropolitan, upon request. The agreement will terminate in 2035 unless extended. To facilitate the program, new wells, spreading basins and a return conveyance facility connecting Arvin-Edison's existing facilities to the California Aqueduct have been constructed. The agreement also provides Metropolitan priority use of Arvin-Edison's facilities to convey high quality water available on the

east side of the San Joaquin Valley to the California Aqueduct. Metropolitan's current storage account under the Arvin-Edison/Metropolitan Water Management Program is shown in the table "Metropolitan's Water Storage Capacity and Water in Storage" under the heading, "—Storage Capacity and Water in Storage" below.

Semitropic/Metropolitan Groundwater Storage and Exchange Program. In 1994 Metropolitan entered into an agreement with the Semitropic Water Storage District ("Semitropic"), located adjacent to the California Aqueduct north of Bakersfield, to store water in the groundwater basin underlying land within Semitropic. The minimum annual yield available to Metropolitan from the program is 31,500 acre-feet of water and the maximum annual yield is 223,000 acre-feet of water depending on the available unused capacity and the State Water Project allocation. Metropolitan's current storage account under the Semitropic program is shown in the table "Metropolitan's Water Storage Capacity and Water in Storage" under the heading, "—Storage Capacity and Water in Storage" below.

California Aqueduct Dry-Year Transfer Program. Metropolitan has entered into agreements with the Kern Delta Water District, the Mojave Water Agency (Demonstration Water Exchange Program) and the San Bernardino Valley Municipal Water District ("SBVMWD") to insure against regulatory and operational uncertainties in the State Water Project system that could impact the reliability of existing supplies. The total potential yield for the three agreements is approximately 80,000 acre-feet of water per year when sufficient water is available.

Metropolitan entered into an agreement with SBVMWD in April 2001 to coordinate the use of facilities and State Water Project water supplies. The agreement allows Metropolitan a minimum purchase of 20,000 acre-feet on an annual basis with the option to purchase additional water when available. Also, the program includes 50,000 acre-feet of carryover storage. In addition to water being supplied using the State Water Project, the previously stored water can be returned using an interconnection between the San Bernardino Central Feeder and Metropolitan's Inland Feeder. This program terminates on December 31, 2014. Metropolitan entered into an agreement with Kern Delta Water District on May 27, 2003, for a groundwater banking and exchange transfer program to allow Metropolitan to store up to 250,000 acre-feet of State Water Contract water in wet years and permit Metropolitan, at Metropolitan's option, a return of up to 50,000 acre-feet of water annually during hydrologic and regulatory droughts. Additionally, Metropolitan entered into a groundwater banking and exchange transfer agreement with Mojave Water Agency on October 29, 2003. This agreement was amended in 2011 to allow for the cumulative storage of up to 390,000 acre-feet. The agreement allows for Metropolitan to store water in an exchange account for later return. Through 2021, and when the SWP allocation is 60 percent or less, Metropolitan can annually withdraw the Mojave Water Agency's SWP contractual amounts in excess of a 10 percent reserve. When the SWP allocation is over 60 percent, the reserved amount for Mojave's local needs increases to 20 percent. Under a 100 percent allocation, the State Water Contract provides Mojave Water Agency 82,800 acre-feet of water. Metropolitan's current storage account under these programs is shown in the table "Metropolitan's Water Storage Capacity and Water in Storage" under the heading, "—Storage Capacity and Water in Storage" below.

Other Water Purchase, Storage and Exchange Programs in the San Joaquin and Sacramento Valleys. Metropolitan has been negotiating, and will continue to pursue, water purchase, storage and exchange programs with other agencies in the Sacramento and San Joaquin Valleys. These programs involve the storage of both State Water Project supplies and water purchased from other sources to enhance Metropolitan's dry-year supplies and the exchange of normal year supplies to enhance Metropolitan's water reliability and water quality, in view of dry conditions and potential impacts from the ESA cases discussed above under the heading "—State Water Project—*Endangered Species Act Considerations*." In addition, in the fall of 2008 DWR convened the State Drought Water Bank (the "Drought Water Bank") as a one-year program to help mitigate water shortages in 2009. During 2009, Metropolitan purchased 36,900 acre-feet of Central Valley Water supplies through the Drought Water Bank, resulting in approximately 29,000 acre-feet of water deliveries after accounting for carriage and conveyance losses. In calendar year 2010, Metropolitan

participated with other State Water Contractors as a group to purchase 88,137 acre-feet of water, resulting in approximately 68,000 acre-feet of deliveries to Metropolitan after carriage and conveyance losses. Additionally during 2010, Metropolitan entered into two transactions with the Westlands Water District and the San Luis Water District, neither of which is subject to carriage losses. Under the first transaction, Metropolitan purchased 18,453 acre-feet of water. In the second, Metropolitan accepted delivery of 110,692 acre-feet of water stored in the San Luis Reservoir and returned two-thirds of that amount from Metropolitan's State Water Project supply in 2011 for a net yield of approximately 37,000 acre-feet.

Metropolitan entered into an agreement with DWR in December 2007 to purchase a portion of the water released by the Yuba County Water Agency ("YCWA"). YCWA was involved in a SWRCB proceeding in which it was required to increase Yuba River fishery flows. Within the framework of agreements known as the Yuba River Accord, DWR and the Bureau of Reclamation entered into agreements for the long-term purchase of water from YCWA. Metropolitan and other State Water Project contractors entered into separate agreements with DWR for purchase of portions of the water made available. Metropolitan's agreement allows Metropolitan to purchase at least 13,750 acre-feet to 35,000 acre-feet per year of water supplies in dry years through 2025. The agreement permits YCWA to transfer additional supplies at its discretion. For calendar years 2008, 2009 and 2010, Metropolitan purchased 26,430 acre-feet, 42,915 acre-feet and 67,068 acre-feet of water, respectively, from YCWA under this program. No purchases were made in calendar years 2011 and 2012, due to favorable water supply conditions.

Metropolitan/CVWD/Desert Water Agency Exchange and Advance Delivery Agreement. Metropolitan has agreements with the CVWD and the Desert Water Agency ("Desert") that require Metropolitan to exchange its Colorado River water for those agencies' State Water Project contractual water on an annual basis. Because Desert and CVWD do not have a physical connection to the State Water Project, Metropolitan takes delivery of Desert's and CVWD's State Water Project supplies and delivers a like amount of Colorado River water to the agencies. In accordance with an advance delivery agreement executed by Metropolitan, CVWD and Desert, Metropolitan has delivered Colorado River water in advance to these agencies for storage in the Upper Coachella Valley groundwater basin. In years when it is necessary to augment available supplies to meet local demands, Metropolitan has the option to meet the exchange delivery obligation through drawdowns of the advance delivery account, rather than deliver its Colorado River supply. Metropolitan's current storage account under the CVWD/Desert program is shown in the table "Metropolitan's Water Storage Capacity and Water in Storage" under the heading, "—Storage Capacity and Water in Storage" below. In addition to the CVWD/Desert exchange agreements, Metropolitan has entered into separate agreements with CVWD and Desert for delivery of non-State Water Project supplies acquired by CVWD or Desert. Similarly, Metropolitan takes delivery of these supplies from State Water Project facilities and incurs an exchange obligation to CVWD or Desert. From 2008 through 2012, Metropolitan has received a net additional supply of 34,362 acre-feet of water acquired by CVWD and Desert.

Other Agreements. Metropolitan is entitled to storage and access to stored water in connection with various storage programs and facilities. See "METROPOLITAN'S WATER SUPPLY—Colorado River Aqueduct" and "REGIONAL WATER RESOURCES—Local Water Supplies—*Conjunctive Use*" in this Appendix A, as well as the table "Metropolitan's Water Storage Capacity and Water in Storage" under the heading, "—Storage Capacity and Water in Storage" below.

Storage Capacity and Water in Storage

Metropolitan's storage capacity, which includes reservoirs, conjunctive use and other groundwater storage programs within Metropolitan's service area and groundwater and surface storage accounts delivered through the State Water Project or Colorado River Aqueduct, is approximately 5.93 million acre-feet. In 2012, approximately 626,000 acre-feet of stored water was emergency storage that was reserved for use in the event of supply interruptions from earthquakes or similar emergencies (see "METROPOLITAN'S WATER DELIVERY SYSTEM—Seismic Considerations" in this Appendix A), as well as extended drought. Metropolitan's emergency storage requirement is established periodically to provide a six-month water supply

at 75 percent of member agencies retail demand under normal hydrologic conditions. Metropolitan's ability to replenish water storage, both in the local groundwater basins and in surface storage and banking programs, has been limited by Bay-Delta pumping restrictions under the Interim Remedial Order in *NRDC v. Kempthorne* and the biological opinions issued for listed species. See "—State Water Project—*Endangered Species Act Considerations*" above. Metropolitan replenishes its storage accounts when imported supplies exceed demands. Effective storage management is dependent on having sufficient years of excess supplies to store water so that it can be used during times of shortage. Historically, excess supplies have been available in about seven of every ten years. Metropolitan forecasts that, with anticipated supply reductions from the State Water Project due to pumping restrictions, it will need to draw down on storage in about seven of ten years and will be able to replenish storage in about three years out of ten. This reduction in available supplies extends the time required for storage to recover from drawdowns and could require Metropolitan to implement its Water Supply Allocation Plan during extended dry periods.

As a result of increased State Water Project supplies and reduced demands from 2010 to 2012, Metropolitan rebuilt its storage after several years of withdrawals. From 2007 to 2009 Metropolitan drew down approximately one million acre-feet of its stored water to meet regional demands. During calendar year 2012, Metropolitan increased storage of State Water Project supplies in Central Valley groundwater storage programs by about 191,000 acre-feet. Storage in Diamond Valley Lake on January 1, 2013 was approximately 690,000 acre-feet, a decrease of about 96,000 acre-feet from Diamond Valley Lake's level on January 1, 2012. Metropolitan increased aggregate storage by approximately 349,000 acre-feet in 2012. This brought total storage at the end of 2012 to approximately 3.37 million acre-feet, including emergency storage, which was the highest end-of-year total water reserves in Metropolitan's history. The following table shows three years of Metropolitan's water in storage as of January 1, including emergency storage.

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METROPOLITAN'S WATER STORAGE CAPACITY AND WATER IN STORAGE[1]
(in Acre-Feet)

Water Storage Resource	Storage Capacity	Water in Storage January 1, 2013	Water in Storage January 1, 2012	Water in Storage January 1, 2011
Colorado River Aqueduct				
Desert / CVWD Advance Delivery Account	800,000	321,000	203,000	178,000
Lake Mead ICS	1,500,000	575,000	435,000	256,000
Subtotal	**2,300,000**	**896,000**	**638,000**	**434,000**
State Water Project				
Arvin-Edison Storage Program	350,000	218,000	164,000	109,000
Semitropic Storage Program	350,000	285,000	245,000	111,000
Kern Delta Storage Program	250,000	178,000	135,000	82,000
San Bernardino Valley MWD Coordinated Operating Agreement	50,000	-0-	-0-	-0-
Mojave Storage Program	390,000[4]	60,000	45,000	-0-
Castaic Lake and Lake Perris[2]	219,000	219,000	219,000	219,000
Metropolitan Article 56 Carryover[3]	200,000[5]	158,000	200,000	-0-
Other State Water Project Carryover	n/a	124,000	43,000	162,000
Emergency Storage	334,000	334,000	334,000	334,000
Subtotal	**2,143,000**	**1,576,000**	**1,385,000**	**1,017,000**
Within Metropolitan's Service Area[6]				
Diamond Valley Lake	810,000	690,000	786,000	638,000
Lake Mathews	182,000	102,000	142,000	139,000
Lake Skinner	44,000	38,000	37,000	40,000
Subtotal	**1,036,000**	**830,000**	**965,000**	**817,000**
Member Agency Storage Programs				
Cyclic Storage, Conjunctive Use, and Supplemental Storage	455,000	67,000	32,000	60,000
Total	**5,934,000**	**3,369,000**	**3,020,000**	**2,328,000**

Source: Metropolitan.

(1) Water storage capacity and water in storage are based on accounting estimates and are subject to change.

(2) Flexible storage allocated to Metropolitan under its State Water Contract.

(3) Article 56 Carryover storage capacity is dependent on the annual State Water Project allocation, which varies from year to year. Article 56 water is unused water that is allocated to a state water contractor in a given year pursuant to the State Water Contract. Metropolitan's carryover water is stored in the San Luis Reservoir.

(4) Following a period during which Metropolitan was not permitted to increase storage, the Mojave Storage Program agreement was amended in 2011 to allow for cumulative storage of up to 390,000 acre-feet.

(5) Metropolitan's State Water Project carryover capacity ranges from 100,000 to 200,000 acre-feet, on a sliding scale that depends on the final State Water Project allocation. At allocations of 50 percent or less, Metropolitan may store 100,000 acre-feet, and at allocations of 75 percent or greater, Metropolitan may store up to 200,000 acre-feet. For the purposes of this table, the highest possible carryover capacity is displayed.

(6) Includes 292,000 acre-feet of emergency storage in Metropolitan's reservoirs.

Water Conservation

The central objective of Metropolitan's water conservation program is to help ensure adequate, reliable and affordable water supplies for Southern California by actively promoting efficient water use. The importance of conservation to the region has increased in recent years because of drought conditions in the State Water Project watershed and court-ordered restrictions on Bay-Delta pumping, as described under "—State Water Project" above. Water conservation is an integral component of Metropolitan's IRP Strategy, Water Surplus and Drought Management Plan and Water Supply Allocation Plan, each described in this Appendix A under "METROPOLITAN'S WATER SUPPLY."

Metropolitan's conservation program has largely been developed to assist its member agencies in meeting the "best management practices" ("BMP") of the California Urban Water Conservation Council's Memorandum of Understanding Regarding Urban Water Conservation in California ("CUWCC MOU") and to meet the conservation goals of the 2010 IRP Update. See "—Integrated Water Resources Plan" above. Under the terms of the CUWCC MOU and Metropolitan's Conservation Credits Program, Metropolitan assists and co-funds member agency conservation programs designed to achieve greater water use efficiency in residential, commercial, industrial, institutional and landscape uses. Metropolitan uses its Water Stewardship Rate, which is charged for every acre-foot of water conveyed by Metropolitan, together with available grant funds, to fund conservation incentives and other water management programs. All users of Metropolitan's system benefit from the system capacity made available by investments in demand management programs like the Conservation Credits Program. See "METROPOLITAN REVENUES—Rate Structure—*Water Stewardship Rate*" in this Appendix A. Direct spending by Metropolitan on active conservation incentives, including rebates for water-saving plumbing fixtures, appliances and equipment, from fiscal year 1989-90 through fiscal year 2011-12 was about $322 million. The 2010 Integrated Water Resources Plan Update estimates that 1,037,000 acre-feet of water will be conserved annually in southern California by 2025. See "—Integrated Water Resources Plan" above.

The Water Surplus and Drought Management Plan ("WSDM Plan"), which was adopted by Metropolitan's Board in April 1999, evolved from Metropolitan's experiences during the droughts of 1976-77 and 1987-92. The WSDM Plan splits resource actions into two major categories: Surplus Actions and Shortage Actions. The Surplus Actions store surplus water, first inside then outside the region. The Shortage Actions of the WSDM Plan are split into three sub-categories: Shortage, Severe Shortage, and Extreme Shortage. Each category has associated actions that could be taken as a part of the response to prevailing shortage conditions. Conservation and water efficiency programs are part of Metropolitan's resource management strategy through all categories.

Metropolitan's plan for allocation of water supplies in the event of shortage (the "Water Supply Allocation Plan"; see "—Water Supply Allocation Plan" below) allocates Metropolitan's water supplies among its member agencies, based on the principles contained in the WSDM Plan, to reduce water use and drawdowns from water storage reserves. Metropolitan's member agencies and retail water suppliers in Metropolitan's service area also have the ability to implement water conservation and allocation programs, and some of the retail suppliers in Metropolitan's service area have initiated conservation measures. The success of conservation measures in conjunction with the Water Supply Allocation Plan is evidenced as a contributing factor in the lower than budgeted water sales during fiscal years 2009-10, 2010-11 and 2011-12.

Legislation approved in November 2009 sets a statewide conservation target for urban per capita water use of 20 percent reductions by 2020 (with credits for existing conservation) at the retail level, providing an additional catalyst for conservation by member agencies and retail suppliers. (See "—State Water Project—*Bay-Delta Regulatory and Planning Activities*" above.) Metropolitan's water sales projections incorporate an estimate of conservation savings that will reduce retail demands. Current projections include an estimate of additional water use efficiency savings that would result from local agencies reducing their per capita water use in response to the 20 percent by 2020 conservation savings goals

required by recent legislation as well as an estimate of additional conservation that would have to occur to reach Metropolitan's IRP goal of reducing overall regional per capita water use by 20 percent by 2020.

Water Supply Allocation Plan

The Water Supply Allocation Plan provides a formula for equitable distribution of available water supplies in case of extreme water shortages within Metropolitan's service area. Delivery within a member agency of more than its allocated amount of Metropolitan supplies will subject the member agency to a penalty of one to four times Metropolitan's full service rate for untreated Tier 2 water, depending on how much the member agency's water use for the twelve-month period beginning on July 1 exceeds its allocated amount. See "METROPOLITAN REVENUES—Water Rates by Water Category" in this Appendix A. Any penalties collected may be rebated to the member agency that paid them to fund water management projects.

The Water Supply Allocation Plan was approved by the Board in February 2008. On April 14, 2009, Metropolitan's Board adopted a resolution declaring a regional water shortage and implementing the Water Supply Allocation Plan, effective July 1, 2009. The Board set the "Regional Shortage Level" at Water Supply Allocation Plan Level 2, which required reduction of regional water use by approximately ten percent and resulted in a total allocation of about 2.09 million acre-feet of Metropolitan water in fiscal year 2009-10. On April 13, 2010, the Board adopted a resolution recognizing the continuing regional water shortage and again setting the Regional Shortage Level at Water Supply Allocation Plan Level 2, which sustained the regional water use reduction of approximately 10 percent. Due to improved hydrologic and storage conditions, on April 12, 2011, the Board terminated implementation of the 2010-11 Water Supply Allocation Plan, restoring imported water deliveries to member agencies without risk of allocation penalties. Although the Act gives each of Metropolitan's member agencies a preferential entitlement to purchase a portion of the water served by Metropolitan (see "METROPOLITAN REVENUES—Preferential Rights"), historically, these rights have not been used in allocating Metropolitan's water.

Metropolitan's member agencies and retail water suppliers in Metropolitan's service area also may implement water conservation and allocation programs within their respective service territories in times of shortage.

REGIONAL WATER RESOURCES

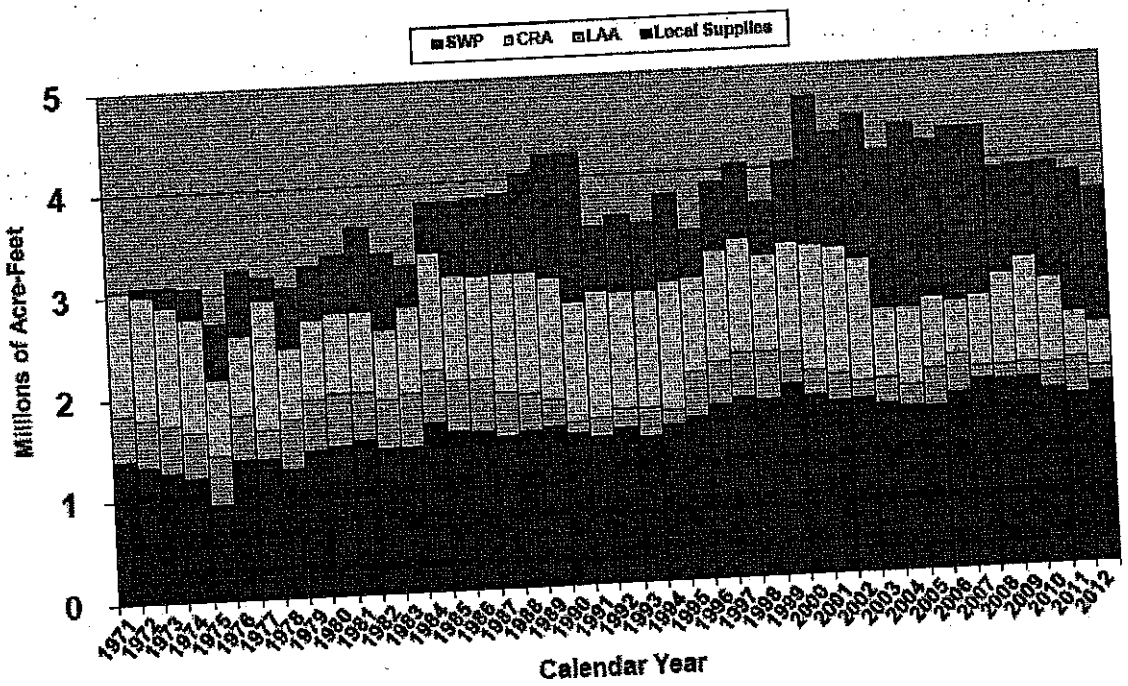
The water supply for Metropolitan's service area is provided in part by Metropolitan and in part by non-Metropolitan sources available to members. Approximately 60 percent of the water supply for Metropolitan's service area is imported water received by Metropolitan from its Colorado River Aqueduct and the State Water Project and by the City of Los Angeles (the "City") from the Los Angeles Aqueduct. While the City is one of the largest water customers of Metropolitan, it receives a substantial portion of its water from the Los Angeles Aqueduct and local groundwater supply. The balance of water within the region is produced locally, primarily from groundwater supplies and runoff.

Metropolitan's member agencies are not required to purchase or use any of the water available from Metropolitan. Some agencies depend on Metropolitan to supply nearly all of their water needs, regardless of the weather. Other agencies, with local surface reservoirs or aqueducts that capture rain or snowfall, rely on Metropolitan more in dry years than in years with heavy rainfall, while others, with ample groundwater supplies, purchase Metropolitan water only to supplement local supplies and to recharge groundwater basins. The demand for supplemental supplies provided by Metropolitan is dependent on water use at the retail consumer level and the amount of locally supplied and conserved water. See "METROPOLITAN'S WATER SUPPLY—Water Conservation" in this Appendix A and "—Local Water Supplies" below. Consumer demand and locally supplied water vary from year to year, resulting in variability in water sales. Future reliance on Metropolitan supplies will be dependent, among other things, on local projects and the amount of water, if any, that may be derived from sources other than Metropolitan. In recent years, supplies and demands have been affected by drought, water use restrictions, economic conditions, weather conditions and environmental laws, regulations and judicial decisions, as described in this Appendix A under

"METROPOLITAN'S WATER SUPPLY." For information on Metropolitan's water sales revenues, see "METROPOLITAN REVENUES" and "MANAGEMENT'S DISCUSSION OF HISTORICAL AND PROJECTED REVENUES AND EXPENDITURES" in this Appendix A.

The following graph shows a summary of the regional sources of water supply for the years 1971 to 2012. Local supplies available within Metropolitan's service area are augmented by water imported by the City through the Los Angeles Aqueduct ("LAA") and Metropolitan supplies provided through the Colorado River Aqueduct ("CRA") and the State Water Project ("SWP").

Source of Water Supply in the Metropolitan Service Area (1971-2012)



Source: Metropolitan.

The major sources of water for Metropolitan's member agencies in addition to supplies provided by Metropolitan are described below.

Los Angeles Aqueduct

The City, through its Department of Water and Power ("LADWP"), operates its Los Angeles Aqueduct system to import water from the Owens Valley and the Mono Basin on the eastern slopes of the Sierra Nevada in eastern California. Prior to the 1990-1991 drought, the City had imported an average of 440,000 acre-feet of water annually from the combined Owens Valley/Mono Basin system, of which about 90,000 acre-feet came from the Mono Basin. Under the Mono Lake Basin Water Right Decision (Decision 1631) issued in September 1994, which revised the Department of Water and Power's water rights licenses in the Mono Basin, the City is limited to export 16,000 acre-feet annually from the Mono Basin until it reaches its target elevation of 6,391 feet above mean sea level.

Pursuant to the City's turnout agreement with DWR, Antelope Valley-East Kern Water Agency ("AVEK") and Metropolitan, the Department of Water and Power commenced construction in 2010 of the turnout facilities along the California Aqueduct within AVEK's service area. Upon completion, expected by 2020, the turnout will enable delivery of water from the California Aqueduct to the Los Angeles Aqueduct. Conditions precedent to such delivery of water include obtaining agreements for the transfer of non-State Water Project water directly from farmers, water districts or others in Northern and Central California, available capacity in the California Aqueduct and compliance with State Water Project water quality requirements. The agreement allows for use of the turnout for delivery of non-State Water Project water annually to the City in amounts not to exceed the supplies lost to the City as a result of its Eastern Sierra environmental obligations, including water for the Lower Owens River Project and the Owens Lake Dust Mitigation Project which could use up to 95,000 acre-feet of Los Angeles Aqueduct water.

Historically, the Los Angeles Aqueduct and local groundwater supplies have been nearly sufficient to meet the City's water requirements during normal water supply years. As a result, prior to the 1990-1991 drought only about 13 percent of the City's water needs (approximately 82,000 acre-feet) were supplied by Metropolitan. From fiscal year 2000-01 to fiscal year 2010-11, approximately 32 to 71 percent of the City's total water requirements were met by Metropolitan. For the five fiscal years ended June 30, 2012, the City's water deliveries from Metropolitan averaged approximately 301,000 acre-feet per year, which constituted approximately 51 percent of the City's total water supply. Deliveries from Metropolitan to the City during this period varied between approximately 167,000 acre-feet per year and approximately 433,000 acre-feet per year. See "METROPOLITAN REVENUES—Principal Customers" in this Appendix A. According to the Los Angeles Department of Water and Power's Year 2010 Urban Water Management Plan, the City is planning to increase locally-developed supplies including recycled water, new conservation, stormwater recapture and groundwater cleanup from the average for the five-year period ending June 30, 2010 of 12 percent to 43 percent of its normal year supplies by fiscal year 2034-35. Accordingly, the City's reliance on Metropolitan supplies will decrease from the five year average ending June 30, 2011 of 52 percent to 24 percent of its normal year supplies by fiscal year 2034-35. However, the City may still purchase up to 511,000 acre-feet per year or 82 percent of its dry year supplies from Metropolitan over the next 25 years. This corresponds to an increase from normal to dry years of approximately 255,000 acre-feet in potential demand for supplies from Metropolitan.

LADWP has indicated that it is currently analyzing additional impacts to the Los Angeles Aqueduct's water supply deliveries of various environmental projects aimed at improving air quality and fish and riparian habitat in the Owens Valley. In October 2012, LADWP filed a federal lawsuit challenging Owens Valley mitigation demands from air pollution control regulators. LADWP reports that, in 2012, 50 percent of its Los Angeles Aqueduct water was devoted to dust and environmental mitigation projects in the Owens Valley and Eastern Sierra, resulting in the need to purchase an equivalent amount of Metropolitan supply.

Local Water Supplies

Local water resources include groundwater production, recycled water production and diversion of surface flows. While local water resources are non-Metropolitan sources of water supply, Metropolitan has executed agreements for storage of Metropolitan supplies in local groundwater basins and provided incentives for local supply development as described below. Member agencies and other local agencies have also independently funded and developed additional local supplies, including groundwater storage and clean-up, recycled water and desalination of brackish or high salt content water.

Metropolitan's water sales projections are based in part on projections of locally-supplied water. Projections of future local supplies are based on estimated yields from sources and projects that are currently producing water or are under construction at the time a water sales projection is made. Additional reductions in Metropolitan's water sales projections are made to account for future local supply augmentation projects, based on the 2010 IRP Update goals. See "MANAGEMENT'S DISCUSSION OF HISTORICAL AND

PROJECTED REVENUES AND EXPENDITURES—Water Sales Projections" and "METROPOLITAN'S WATER SUPPLY—Integrated Water Resources Plan" in this Appendix A.

Groundwater. Demands for about 1.5 million acre-feet per year, about one-third of the annual water demands for approximately 18 million residents of Metropolitan's service area, are met from groundwater production. Local groundwater supplies are supported by recycled water, which is blended with imported water and recharged into groundwater basins, and also used for creating seawater barriers that protect coastal aquifers from seawater intrusion.

Groundwater Storage Programs. Metropolitan has executed agreements with a number of agencies to develop groundwater storage projects in its service area. These projects are designed to help meet the water delivery reliability goals of storing surplus imported supplies when available so that local agencies can withdraw stored groundwater during droughts or other periods of water supply shortage. In 2000, Metropolitan was allocated $45 million in State Proposition 13 bond proceeds to develop groundwater storage projects in Metropolitan's service area. The nine projects provide about 212,000 acre-feet of groundwater storage and have a combined extraction capacity of about 70,000 acre-feet per year. During fiscal year 2008-09, over 70,000 acre-feet of stored water was produced and sold from these storage accounts. Fiscal year 2009-10 sales from the nine accounts totaled nearly 41,000 acre-feet, leaving a balance of approximately 26,000 acre-feet in the storage accounts. Metropolitan began refilling the programs in fiscal year 2010-11. As of March 1, 2013, the balance in the nine accounts was over 82,000 acre-feet. See table "Metropolitan's Water Storage Capacity and Water in Storage" under "METROPOLITAN'S WATER SUPPLY—Storage Capacity and Water in Storage" in this Appendix A.

Recovered Groundwater. Contamination of groundwater supplies is a growing threat to local groundwater production. Metropolitan has been supporting increased groundwater production and improved regional supply reliability by offering financial incentives to agencies for production and treatment of degraded groundwater since 1991. Metropolitan has executed agreements with local agencies to provide financial incentives to 22 projects that recover contaminated groundwater with total contract yields of about 111,300 acre-feet per year. During fiscal year 2011-12 Metropolitan provided incentives for approximately 40,400 acre-feet of recovered water under these agreements. Total groundwater recovery use under executed agreements is expected to grow to 67,000 acre-feet by 2015.

Surface Runoff. Local surface water resources consist of runoff captured in storage reservoirs and diversions from streams. Since 1980, agencies have used an average of 115,000 acre-feet per year of local surface water. Local surface water supplies are heavily influenced by year to year local weather conditions, varying from a high of 193,000 acre-feet in fiscal year 1998-99 to a low of 65,000 acre-feet in fiscal year 2002-03.

Conjunctive Use. Conjunctive use is accomplished when groundwater basins are used to store imported supplies during water abundant periods. The stored water is used during shortages and emergencies with a corresponding reduction in surface deliveries to the participating agencies. Regional benefits include enhancing Metropolitan's ability to capture excess surface flows during wet years from both the State Water Project and Colorado River. Groundwater storage is accomplished using spreading basins, injection wells, and in-lieu deliveries where imported water is substituted for groundwater, and the groundwater not pumped is considered stored water.

Metropolitan has promoted conjunctive use at the local agency level under its Replenishment Service Program by discounting rates for imported water placed into groundwater or reservoir storage during wet months. The discounted rate and program rules encouraged construction of additional groundwater production facilities allowing local agencies to be more self-sufficient during shortages. (See "*–Groundwater Storage Programs*" above.) In calendar year 2006, Metropolitan delivered approximately 247,000 acre-feet of water as replenishment water. In calendar year 2007, Metropolitan delivered approximately 46,000 acre-feet of water as replenishment water through May 1, 2007 then discontinued such deliveries through May 10,

2011 when Metropolitan's Board authorized sale of up to 225,000 acre-feet of discounted replenishment service deliveries to member agencies for the remainder of calendar year 2011. In calendar year 2011, Metropolitan delivered approximately 225,000 acre-feet of this discounted replenishment water. No replenishment sales are budgeted for fiscal year 2012-13 and thereafter. The Replenishment Service Program was discontinued effective December 31, 2012. See "METROPOLITAN REVENUES—Classes of Water Service—*Replenishment*" and "MANAGEMENT'S DISCUSSION OF HISTORICAL AND PROJECTED REVENUES AND EXPENDITURES—Water Sales Projections" in this Appendix A.

Recycled Water. Metropolitan has supported recycled water use to offset potable water demands and improve regional supply reliability by offering financial incentives to agencies for production and sales of recycled water since 1982. Metropolitan has executed agreements with local agencies to provide financial incentives to 73 recycled water projects with total contract yields of about 335,000 acre-feet per year. During fiscal year 2011-12, Metropolitan provided incentives for approximately 171,400 acre-feet of reclaimed water under these agreements. Total recycled water use under executed agreements is expected to grow to about 186,000 acre-feet by 2015.

Seawater Desalination. Metropolitan's IRP includes seawater desalination as a core local supply and supports foundational actions to lay the groundwork for accelerating seawater desalination development as needed in the future. To encourage local development, Metropolitan has signed Seawater Desalination Program ("SDP") incentive agreements with three of its member agencies: Long Beach, Municipal Water District of Orange County and West Basin Municipal Water District. The SDP agreements provide incentives to the member agencies of up to $250 per acre-foot when the desalinated supplies are produced. Agreement terms are for the earlier of 25 years or through 2040 and are designed to phase out if Metropolitan's rates surpass the unit cost of producing desalinated seawater. SDP agreements are subject to final approval by Metropolitan's Board after review of the complete project description and environmental documentation. Collectively these projects are anticipated to produce up to 46,000 acre-feet annually.

In November 2012, SDCWA approved a water purchase agreement with Poseidon Resources LLC ("Poseidon Resources") for a seawater desalination project in Carlsbad (the "Carlsbad Project") to provide a minimum of 48,000 acre-feet and a maximum of 56,000 acre-feet of desalinated supplies to SDCWA per year. The Carlsbad Project is under construction and is anticipated to be completed in 2016.

Other seawater desalination projects are under development or consideration that could provide supplies to Metropolitan's service area. Poseidon Resources is developing a 56,000 acre-feet per year plant in Huntington Beach which is currently in the permitting phase, with California Coastal Commission permit hearings anticipated in 2013. SDCWA is studying the potential for a seawater desalination plant in Camp Pendleton which would initially produce up to 56,000 acre-feet per year and potentially up to 168,000 acre-feet per year with a phased build out. SDCWA, in collaboration with Mexican government agencies, also is considering a 56,000 acre-feet per year facility in Rosarito Beach, Mexico. If developed, SDCWA could receive a portion of the desalinated supplies through a delivery pipeline across the international border to SDCWA. Otay Water District, located in San Diego County along the Mexico border, is separately considering the feasibility of purchasing water from an alternative seawater desalination project at the same site in Rosarito Beach. Approvals from a number of U.S. and Mexican federal agencies, along with State and local approvals, would be needed for either cross-border project to proceed.

METROPOLITAN'S WATER DELIVERY SYSTEM

Method of Delivery

Metropolitan's water delivery system is made up of three basic components: the Colorado River Aqueduct, the California Aqueduct of the State Water Project and Metropolitan's internal water distribution system. Metropolitan's delivery system is integrated and designed to meet the differing needs of its member agencies. Metropolitan seeks redundancy in its delivery system to assure reliability in the event of an outage.

Current system expansion and other improvements will be designed to increase the flexibility of the system. Since local sources of water are generally used to their maximum each year, growth in the demand for water is partially met by Metropolitan. Accordingly, the operation of Metropolitan's water system is being made more reliable through the rehabilitation of key facilities as needed, improved preventive maintenance programs and the upgrading of Metropolitan's operational control systems. See "CAPITAL INVESTMENT PLAN" in this Appendix A.

Colorado River Aqueduct. Work on the Colorado River Aqueduct commenced in 1933 and water deliveries started in 1941. Additional facilities were completed by 1961 to meet additional requirements of Metropolitan's member agencies. The Colorado River Aqueduct is 242 miles long, starting at the Lake Havasu intake and ending at the Lake Mathews terminal reservoir. Metropolitan owns all of the components of the Colorado River Aqueduct, which include five pump plants, 64 miles of canal, 92 miles of tunnels, 55 miles of concrete conduits and 144 underground siphons totaling 29 miles in length. The pumping plants lift the water approximately 1,617 feet over several mountain ranges to Metropolitan's service area. See "METROPOLITAN'S WATER SUPPLY—Colorado River Aqueduct" in this Appendix A.

State Water Project. The initial portions of the State Water Project serving Metropolitan were completed in 1973. State Water Project facilities are owned and operated by DWR. Twenty-nine agencies have entered into contracts with DWR to receive water from the State Water Project. See "METROPOLITAN'S WATER SUPPLY—State Water Project" in this Appendix A.

Internal Distribution System. Metropolitan's internal water distribution system includes components that were built beginning in the 1930s and through the present. Metropolitan owns all of these components, including 14 dams and reservoirs, five regional treatment plants, over 800 miles of transmission pipelines, feeders and canals, and 16 hydroelectric plants with an aggregate capacity of 131 megawatts.

Diamond Valley Lake. Diamond Valley Lake, a man-made reservoir located southwest of the city of Hemet, California, covers approximately 4,410 acres and has capacity to hold approximately 810,000 acre-feet or 265 billion gallons of water. Diamond Valley Lake was constructed to serve approximately 90 percent of Metropolitan's service area by gravity flow. Associated hydraulic structures consist of an inlet-outlet tower, pumps and generating facilities, a pressure control facility, connecting tunnels and a forebay. Imported water is delivered to Diamond Valley Lake during surplus periods. The reservoir provides more reliable delivery of imported water from the State Water Project and the Colorado River Aqueduct during summer months, droughts and emergencies. In addition, Diamond Valley Lake is capable of providing more than one-third of Southern California's water needs from storage for approximately six months after a major earthquake (assuming that there has been no impairment of Metropolitan's internal distribution network). See the table "Metropolitan's Water Storage Capacity and Water in Storage" under "METROPOLITAN'S WATER SUPPLY—Storage Capacity and Water in Storage" in this Appendix A for the amount of water in storage at Diamond Valley Lake. Excavation at the project site began in May 1995. Diamond Valley Lake was completed in March 2000, at a total cost of $2 billion, and was in full operation in December 2001.

Inland Feeder. The Inland Feeder is a 44-mile-long conveyance system that connects the State Water Project to Diamond Valley Lake and the Colorado River Aqueduct. The Inland Feeder provides greater flexibility in managing Metropolitan's major water supplies and allows greater amounts of State Water Project water to be accepted during wet seasons for storage in Diamond Valley Lake. In addition, the Inland Feeder increases the conveyance capacity from the East Branch of the State Water Project by 1,000 cubic-feet per second ("cfs"), allowing the East Branch to operate up to its full capacity. Construction of the Inland Feeder was completed in September 2009 at a total cost of $1.14 billion.

Operations Control Center. Metropolitan's water conveyance and distribution system operations are coordinated from the Operations Control Center ("OCC") located in the Eagle Rock area of Los Angeles. The OCC plans, balances and schedules daily water and power operations to meet member agencies' demands, taking into consideration the operational limits of the entire system.

Water Treatment

Metropolitan filters and disinfects water at five water treatment plants: the F.E. Weymouth Treatment Plant, the Joseph Jensen Treatment Plant, the Henry J. Mills Treatment Plant, the Robert B. Diemer Treatment Plant and the Robert A. Skinner Treatment Plant. The plants treat an average of between 1.7 billion and 2.0 billion gallons of water per day, and have a maximum capacity of approximately 2.6 billion gallons per day. Approximately 60 percent of Metropolitan's water deliveries are treated water.

Federal and state regulatory agencies continually monitor and establish new water quality standards. New water quality standards could affect availability of water and impose significant compliance costs on Metropolitan. The Safe Drinking Water Act ("SDWA") was amended in 1986 and again in 1996. The SDWA establishes drinking water quality standards, monitoring, public notification and enforcement requirements for public water systems. To achieve these objectives, the U.S. Environmental Protection Agency ("USEPA"), as the lead regulatory authority, promulgates national drinking water regulations and develops the mechanism for individual states to assume primary enforcement responsibilities. The California Department of Public Health ("CDPH"), formerly known as the Department of Health Services, has lead authority over California water agencies. Metropolitan continually monitors new water quality laws and regulations and frequently comments on new legislative proposals and regulatory rules.

In October 2007, Metropolitan began adding fluoride to treated water at all five of its treatment plants for regional compliance with Assembly Bill 733, enacted in 1995, which requires fluoridation of any public water supply with over 10,000 service connections in order to prevent tooth decay, subject to availability of sufficient funding. Design and construction of the fluoridation facilities at Metropolitan's five treatment plants were funded primarily by a $5.5 million grant from the California Dental Association Foundation, in conjunction with the California Fluoridation 2010 Work Group. On August 9, 2011, four individuals filed litigation (*Foli, et al. v. Metropolitan Water District of Southern California, et al.*) in federal district court alleging deprivation of civil rights, impairment of civil rights and unfair competition based on fluoridation of Metropolitan's treated water deliveries. On April 10, 2012 the court granted Metropolitan's motion to dismiss the case without prejudice. Plaintiffs filed a first amended complaint on April 24, 2012. Metropolitan's motion to dismiss the first amended complaint was granted on January 25, 2013, dismissing the case with prejudice.

Disinfection By-products. As part of the requirements of the SDWA, USEPA is required to establish regulations to strengthen protection against microbial contaminants and reduce potential health risks from disinfection by-products. Disinfectants and disinfection by-products ("DBPs" and, together with disinfectants, "D/DBPs") were addressed by the USEPA in two stages. In the Stage 1 Disinfectants and Disinfection Byproducts Rule ("Stage 1 DBPR"), the maximum contaminant level ("MCL") for one of the classes of DBPs, total trihalomethanes ("TTHM"), was lowered from 100 parts per billion ("ppb") to 80 ppb. MCLs were also set for haloacetic acids ("HAA") and bromate (an ozone DBP). In addition, the Stage 1 DBPR includes a treatment requirement to remove disinfection by-product precursors. Compliance with these requirements started in January 2002. Metropolitan already satisfied these requirements for its Colorado River Water, which has lower levels of disinfection by-product precursors than State Water Project water. State Water Project water has a greater amount of disinfection by-product precursors and modifications to the treatment process have been made to meet the requirements of the Stage 1 DBPR. Longer-term D/DBP control has been achieved by switching to ozone as the primary disinfectant at the Mills, Jensen and Skinner treatment plants. Mills and Jensen treatment plants only receive water from the State Water Project. Ozone facilities at the Mills and Jensen plants began operating in October 2003 and July 2005, respectively. Skinner, Diemer and Weymouth water treatment plants receive a blend of water from the State Water Project and the Colorado River. Ozone facilities at the Skinner plant became operational in October 2010. The Diemer plant is nearing the end of construction of its ozone facilities with an online date anticipated by 2014. Construction of Weymouth ozone facilities is underway and anticipated to be complete in 2016. See "CAPITAL INVESTMENT PLAN—Major Projects of Metropolitan's Capital Investment Plan" in this Appendix A. Ozone will enable these plants to reliably treat water containing higher blends of State Project

water and still meet the new microbial and D/DBP standards, while also improving the aesthetics, such as taste and odor, of water delivered to consumers.

The second stage of the D/DBP Rule ("Stage 2 DBPR") was finalized in January 2006. The Stage 2 DBPR requires water systems to meet the TTHM and HAA standards at individual monitoring locations in the distribution system as opposed to a distribution system-wide average under the Stage 1 DBPR. Metropolitan does not anticipate any further capital improvements in order to meet the Stage 2 DBPR requirements.

The Interim Enhanced Surface Water Treatment Rule and the Long Term 2 Enhanced Surface Water Treatment Rule ("LT2ESWTR") have been implemented to simultaneously provide protection against microbial pathogens while the D/DBP rules provide reduced risk from disinfection by-products. Metropolitan does not anticipate any further capital improvements in order to meet the LT2ESWTR requirements.

Perchlorate. Perchlorate, used in solid rocket propellants, munitions and fireworks, has contaminated some drinking water wells and surface water sources throughout California. Perchlorate also has been detected in Metropolitan's Colorado River water supplies. A chemical manufacturing facility near Lake Mead in Nevada is a primary source of the contamination. Remediation efforts began in 1998 and have been successful at meeting the cleanup objectives, significantly reducing the levels of perchlorate entering into the Colorado River. CDPH has established a primary drinking water standard (i.e., an MCL) of 6 ppb for perchlorate. Current perchlorate levels in Metropolitan's Colorado River supplies are below 2 ppb.

Chromium 6. Hexavalent chromium or chromium 6 is one of several forms of chromium that occur in natural waters in the environment. Chromium 6 is the relatively more harmful form of chromium that is regulated under the public health standard MCL of 50 ppb for "total" chromium. There is currently no specific MCL for chromium 6. Since monitoring began in 1998, chromium 6 in Metropolitan's treated waters has ranged from non-detect (less than 0.03 ppb) to under 1 ppb. On July 27, 2011 the California Office of Environmental Health Hazard Assessment ("OEHHA") released a public health goal ("PHG") of 0.02 ppb for chromium 6. Following public comment periods and workshops, the CDPH can proceed with final development of a MCL for chromium 6 and must set the state MCL as close to the PHG as is technologically and economically feasible. Despite the conservative PHG, it is expected that the adoption of a chromium 6 regulation will not materially affect the water supply to Metropolitan or result in significant compliance costs.

Arsenic. The federal and state MCL for arsenic in drinking water is 10 ppb. Arsenic levels in Metropolitan's treated water supplies ranged from not detected (less than 2 ppb) to 2.7 ppb in 2012, which is within the historically expected range.

Seismic Considerations

General. Although the magnitude of damages resulting from a significant seismic event are impossible to predict, Metropolitan's water conveyance and distribution facilities are designed to either withstand a maximum probable seismic event or to minimize the potential repair time in the event of damage. The five pumping plants on the Colorado River Aqueduct have been buttressed to better withstand seismic events. Other components of the Colorado River Aqueduct are monitored for any necessary rehabilitation and repair. Metropolitan personnel and independent consultants periodically reevaluate the internal water distribution system's vulnerability to earthquakes. As facilities are evaluated and identified for seismic retrofitting, they are prioritized, with those facilities necessary for delivering or treating water scheduled for upgrade before non-critical facilities. However, major portions of the California Aqueduct and the Colorado River Aqueduct are located near major earthquake faults, including the San Andreas Fault. A significant earthquake could damage structures and interrupt the supply of water, adversely affecting Metropolitan's revenues and its ability to pay its obligations. Therefore, emergency supplies are stored for use throughout Metropolitan's service area, and a six-month reserve supply of water normally held in local storage (including

emergency storage in Diamond Valley Lake) provides reasonable assurance of continuing water supplies during and after such events.

Metropolitan has an ongoing surveillance program that monitors the safety and structural performance of its 14 dams and reservoirs. Operating personnel perform regular inspections that include monitoring and analyzing seepage flows and pressures. Engineers responsible for dam safety review the inspection data and monitor the horizontal and vertical movements for each dam. Major on-site inspections are performed at least twice each year. Instruments that transmit seismic acceleration time histories for analysis any time a dam is subjected to strong motion during an earthquake are located at a number of selected sites.

In addition, Metropolitan has developed an emergency plan that calls for specific levels of response appropriate to an earthquake's magnitude and location. Included in this plan are various communication tools as well as a structured plan of management that varies with the severity of the event. Pre-designated personnel follow detailed steps for field facility inspection and distribution system patrol. Approximately 40 employees are designated to respond immediately under certain identifiable seismic events. An emergency operations center is maintained at the OCC. The OCC, which is specifically designed to be earthquake resistant, contains communication equipment, including a radio transmitter, microwave capability and a response line linking Metropolitan with its member agencies, DWR, other utilities and the State's Office of Emergency Services. Metropolitan also maintains machine, fabrication and coating shops at its facility in La Verne, California. Materials to fabricate pipe and other appurtenant fittings are kept in inventory at the La Verne site. In the event of earthquake damage, Metropolitan has taken measures to provide the design and fabrication capacity to fabricate pipe and related fittings. Metropolitan is also staffed to perform emergency repairs and has pre-qualified contractors for emergency repair needs at various locations throughout Metropolitan's service area.

State Water Project Facilities. The California Aqueduct crosses all major faults either by canal at ground level or by pipeline at very shallow depths to ease repair in case of damage from movement along a fault. State Water Project facilities are designed to withstand major earthquakes along a local fault or magnitude 8.1 earthquakes along the San Andreas Fault without major damage. Dams, for example, are designed to accommodate movement along their foundations and to resist earthquake forces on their embankments. Earthquake loads have been taken into consideration in the design of project structures such as pumping and power plants. The location of check structures on the canal allows for hydraulic isolation of the fault-crossing repair.

While the dams, canals, pump stations and other constructed State Water Project facilities have been designed to withstand earthquake forces, the critical supply of water from Northern California must traverse the Bay-Delta through hundreds of miles of varying levels of engineered levees that are susceptible to major failures due to flood and seismic risk. In the event of a failure of the Bay-Delta levees, the quality of the Bay-Delta's water could be severely compromised as salt water comes in from the San Francisco Bay. Metropolitan's supply of State Water Project water would be adversely impacted if pumps that move Bay-Delta water southward to the Central Valley and Southern California are shut down to contain the salt water intrusion. Metropolitan estimates that stored water supplies, Colorado River Aqueduct supplies and local water resources that would be available in case of a levee breach or other interruption in State Water Project supplies would meet demands in Metropolitan's service area for approximately twelve months. See "METROPOLITAN'S WATER SUPPLY—Storage Capacity and Water in Storage" in this Appendix A. Since the State and Federal governments control the Bay-Delta levees, repair of any levee failures would be the responsibility of and controlled by the State and Federal governments.

Metropolitan, in cooperation with the State Water Contractors, developed recommendations to DWR for emergency preparedness measures to maintain continuity in export water supplies and water quality during emergency events. These measures include improvements to emergency construction materials stockpiles in the Bay-Delta, improved emergency contracting capabilities, strategic levee improvements and

other structural measures of importance to Bay-Delta water export interests, including development of an emergency freshwater pathway to export facilities in a severe earthquake. DWR utilized $12 million in fiscal year 2007-08 for initial stockpiling of rock for emergency levee repairs and development of Bay-Delta land and marine loading facilities and has identified future funding for expanded stockpiles.

Perris Dam. DWR reported in July 2005 that seismic studies indicate that DWR's Perris Dam facility could sustain damage from moderate earthquakes along the San Jacinto or San Andreas faults due to potential weaknesses in the dam's foundation. The studies used technology not available when the dam was completed in 1974. Perris Dam forms Lake Perris, the terminal reservoir for the State Water Project in Riverside County, with maximum capacity of approximately 130,000 acre-feet of water. In late 2005, DWR lowered the water level in the reservoir by about 25 feet and reduced the amount of water stored in the reservoir to about 75,000 acre-feet as DWR evaluates alternatives for repair of the dam. The lower lake level elevation was intended to prevent over-topping of the dam crest in the event of a major earthquake and to prevent uncontrolled releases. In December 2006, DWR completed a study identifying various repair options, began additional geologic exploration along the base of Perris Dam and started preliminary design. DWR's preferred alternative is to repair the dam to restore the reservoir to its historical level. DWR released its draft EIR in January 2010 and final EIR in September 2011. On November 11, 2011, DWR certified the final EIR and filed a Notice of Determination stating its intent to proceed with the preferred alternative. Since that time, DWR has narrowed its scope of work and refined its cost estimates for this project. DWR now estimates that such repairs will cost approximately $141 million with commencement of construction anticipated in 2014 and completion in late 2015. Under the original allocation of joint costs for this facility, the State would have paid approximately six percent of the repair costs. However, because of the recreational benefit this facility provides to the public, the Legislature has approved a recommendation from DWR that the State assume a greater percentage of these repairs costs, namely 32.2 percent. The remaining 67.8 percent of repairs costs will be paid for by the three agencies that use the water stored in Lake Perris: Metropolitan, Desert Water Agency and Coachella Valley Water District. See "METROPOLITAN EXPENDITURES–State Water Contract Obligations" in this Appendix A.

Security Measures

Metropolitan conducts ground and air patrols of the Colorado River Aqueduct and monitoring and testing at all treatment plants and along the Colorado River Aqueduct. Similarly, DWR has in place security measures to protect critical facilities of the State Water Project, including both ground and air patrols of the State Water Project.

Although Metropolitan has constructed redundant systems and other safeguards to ensure its ability to continually deliver water to its customers, and DWR has made similar efforts, a terrorist attack or other security breach against water facilities could materially impair Metropolitan's ability to deliver water to its customers, its operations and revenues and its ability to pay its obligations.

CAPITAL INVESTMENT PLAN

General Description

Metropolitan's current Capital Investment Plan (the "Capital Investment Plan" or "CIP") involves expansion and rehabilitation of existing facilities and construction of new facilities to provide for resource development, meet future water demands, ensure system reliability as well as enhance operational efficiency, and comply with water quality regulations. Metropolitan's CIP is regularly reviewed and updated. Implementation and construction of specific elements of the program are subject to Board approval, and the amount and timing of borrowings will depend upon, among other factors, status of construction activity and water demands within Metropolitan's service area. From time to time projects that have been undertaken are delayed, redesigned or deferred by Metropolitan for various reasons and no assurance can be given that a project in the CIP will be completed in accordance with its original schedule or that any project will be completed as currently planned.

Projection of Capital Investment Plan Expenditures

The table below sets forth the projected CIP expenditures in the adopted biennial budget for fiscal years 2012-13 and 2013-14, including replacement and refurbishment expenditures, by project type for the fiscal years ending June 30, 2013 through 2017. The requirements of the CIP from fiscal year 2012-13 through fiscal year 2016-17, as set forth in the adopted biennial budget for fiscal years 2012-13 and 2013-14, are estimated to be approximately $1.45 billion in escalated dollars. This estimate is updated annually as a result of the periodic review and revision of the CIP. See "HISTORICAL AND PROJECTED REVENUES AND EXPENDITURES" in this Appendix A.

CAPITAL INVESTMENT PLAN
PROJECTION OF EXPENDITURES[1]
(Fiscal Years Ended June 30 - Dollars in Thousands)

	2013	2014	2015	2016	2017	Total
Cost of Service						
Source of Supply	$ 347	$ -0-	$ -0-	$ -0-	$ -0-	$ 347
Conveyance & Aqueduct	49,323	37,454	27,124	9,710	2,000	125,611
Storage	8,268	8,001	5,752	8,239	9,599	39,859
Distribution	35,201	42,734	54,827	70,509	82,548	285,819
Treatment	131,722	163,269	208,627	193,812	171,820	869,250
Administrative & General	24,999	21,158	22,171	14,992	5,493	88,813
Hydroelectric	7,429	21,989	3,533	1,216	5,715	39,882
Total[2]	$257,289[3]	$294,605[3]	$322,034	$298,478	$277,175	$1,449,581

Source: Metropolitan.

(1) Fiscal year 2012-13 through 2016-17 based on the adopted biennial budget for fiscal years 2012-13 and 2013-14. Totals are rounded.

(2) Annual totals include replacement and refurbishment expenditures for fiscal years 2012-13 through 2016-17 of $132 million, $154 million, $127 million, $184 million, and $200 million, respectively, for a total of $797 million for fiscal years 2012-13 through 2016-17.

(3) Based upon actual operations through January 31, 2013 and revised projections for February through June 2013, CIP expenditures for fiscal year 2012-13 are projected to be $140 million, compared to a budget of $257 million. CIP expenditures for fiscal year 2013-14 are projected to be $214 million. These variances are attributed to significant cost savings for a single under-budget construction contract, lower than anticipated contract progress payments, and efforts to optimize design and construction scheduling while maintaining reliable service.

The above projections do not include amounts for contingencies, but include escalation at 2.77 percent per year for projects for which formal construction contracts have not been awarded. Additional capital costs may arise in the future as a result of, among other things, federal and State water quality regulations, project changes and mitigation measures necessary to satisfy environmental and regulatory requirements, and for additional facilities. See "METROPOLITAN'S WATER DELIVERY SYSTEM—Water Treatment" in this Appendix A.

Capital Investment Plan Financing

The CIP will require significant funding from debt financing (see "HISTORICAL AND PROJECTED REVENUES AND EXPENDITURES" in this Appendix A) as well as from pay-as-you-go funding. The Board has adopted an internal funding objective to fund all capital program expenditures required for replacements and refurbishments of Metropolitan facilities from current revenues. However, in order to reduce drawdowns of reserve balances and to mitigate financial risks that could occur in upcoming years, actual and projected pay-as-you-go funding has been less than projected amounts during fiscal years 2007-08 through 2012-13. During this period, pay-as-you-go funding is now expected to be $256 million,

rather than the $521 million originally projected for this period. As in prior years, these amounts may be reduced or increased by the Board during the fiscal year. To limit the accumulation of cash and investments in the Replacement and Refurbishment Fund, the maximum balance in this fund at the end of each fiscal year will be $95 million. Amounts above the $95 million limit will be transferred to the Revenue Remainder Fund and may be used for any lawful purpose. See "METROPOLITAN REVENUES—Financial Reserve Policy" in this Appendix A. The remainder of capital program expenditures will be funded through the issuance from time to time of water revenue bonds, which are payable from Net Operating Revenues. Metropolitan's budget assumptions for the adopted biennial budget for fiscal years 2012-13 and 2013-14 provide for the issuance of additional water revenue bonds to fund the CIP in the amount of $180 million in fiscal year 2012-13, $180 million in fiscal year 2013-14, $200 million in fiscal year 2014-15, $180 million in fiscal year 2015-16 and $190 million in fiscal year 2016-17. Metropolitan does not expect to issue the entire amount of $180 million of additional water revenue bonds to fund the CIP in fiscal year 2012-13 and has not determined how that may affect the budget assumptions concerning issuances in future fiscal years.

Major Projects of Metropolitan's Capital Investment Plan

Oxidation Retrofit Facilities. The oxidation retrofit facilities program includes the design and construction of oxidation facilities and appurtenances at all of Metropolitan's treatment plants. This program is intended to allow Metropolitan to meet drinking water standards for disinfection by-products and reduce taste and odor incidents. The first phase of the oxidation retrofit program, at Metropolitan's Henry J. Mills Treatment Plant in Riverside County, was completed in 2003. Oxidation retrofit at the Joseph Jensen Treatment Plant was completed July 1, 2005. The cost for these two projects was approximately $236.4 million. Oxidation retrofit at the Robert A. Skinner plant was substantially completed in December 2009 and operational in 2010, with follow-up work expected for completion in June 2013. Expenditures at the Skinner plant through December 2012 were $242.2 million. Total oxidation program costs at the Skinner plant are estimated to be $245.5 million. Construction of the oxidation retrofit facilities at the Robert B. Diemer Treatment Plant was 99 percent complete as of May 1, 2013. The facilities are anticipated to be online by 2014. Program expenditures at the Diemer plant through December 2012 were $348.7 million and the total program cost is projected to be $372.9 million. The construction contract for the Weymouth oxidation facilities, the last Metropolitan treatment plant to be retrofitted, was awarded in June 2012. Oxidation program costs at the F.E. Weymouth plant, based upon the adopted budget, were estimated to be $338.5 million. Expenditures at the Weymouth plant through December 2012 were $80.1 million and completion is expected in fiscal year 2016-17.

F.E. Weymouth Treatment Plant Improvements. The F.E. Weymouth Treatment Plant was built in 1938 and subsequently expanded several times over the following 25 years. It is Metropolitan's oldest water treatment facility. Metropolitan has completed several upgrades and refurbishment/replacement projects to maintain the plant's reliability and improve its efficiency. These include power systems upgrades, a residual solids dewatering facility, refurbishment/replacement of the mechanical equipment in two of the eight flocculation and settling basins, a new plant maintenance facility, new chemical feed systems and storage tanks, replacement of the plant domestic/fire water system, seismic upgrades to the plant inlet structure, and a new chlorine handling and containment facility. Planned projects over the next several years include refurbishment of the plant's filters and settling basins, seismic retrofits to the filter buildings and administration building, and replacement of the valves used to control filter operation. The cost estimate for all prior and projected improvements at the Weymouth plant, not including the ozone facilities, is approximately $452 million, with $180.6 million spent through December 2012. Budgeted aggregate capital expenditures for improvements at the Weymouth plant for fiscal years 2012-13 and 2013-14 are $40.3 million.

Robert B. Diemer Treatment Plant Improvements. The Robert B. Diemer Treatment Plant was built in 1963 and subsequently expanded in 1968. It is Metropolitan's second oldest water treatment facility and has a capacity to treat 520 million gallons of water a day. Several upgrades and refurbishment/replacement projects have been completed at the Diemer plant, including power system upgrades, a new residual solids

dewatering facility, new vehicle and plant maintenance facilities, new chemical feed systems and storage tanks, a new chlorine handling and containment facility, construction of a roller-compacted concrete slope stabilization system and a new secondary access road. The current cost estimate for all prior and projected improvements at the Diemer Treatment Plant, not including the ozone facilities, is approximately $445.2 million, with $173.0 million spent through December 2012. Budgeted aggregate capital expenditures for improvements at the Diemer plant for fiscal years 2012-13 and 2013-14 are $34.4 million.

Colorado River Aqueduct Facilities. Deliveries through the Colorado River Aqueduct began in 1941. Through annual inspections and maintenance activities, the performance and reliability of the various components of the Colorado River Aqueduct are regularly evaluated. A major overhaul of the pump units at the five pumping plants was completed in 1988. Refurbishment or replacement of many of the electrical system components, including the transformers, circuit breakers and motor control centers, is currently under way. Projects completed over the past 10 years include replacement of high voltage circuit breakers and transformers at the five pumping plant switchyards, refurbishment of operators and power centers on the head gates downstream of the pumping plants, refurbishment/replacement of 15 isolation/control gates, replacement of cast iron pipe and other components at over 200 outlet structures with stainless steel components, replacement of pumping plant inlet trash racks, and replacement of several miles of deteriorated concrete canal liner. Additionally, many of the mechanical components at the pumping plants as well as the Copper Basin and Gene Wash Reservoirs will be evaluated and replaced or refurbished over the next few years. The currently projected cost estimate for all prior and planned refurbishment or replacement projects is $285.8 million. Costs through December 2012 were $143.1 million. Budgeted aggregate capital expenditures for improvements on the Colorado River Aqueduct for fiscal years 2012-13 and 2013-14 are $74.1 million.

GOVERNANCE AND MANAGEMENT

Board of Directors

Metropolitan is governed by a 37-member Board of Directors. Each member public agency is entitled to have at least one representative on the Board, plus an additional representative for each full five percent of the total assessed valuation of property in Metropolitan's service area that is within the member public agency. Changes in relative assessed valuation do not terminate any director's term. Accordingly, the Board may, from time to time, have more than 37 directors.

The Board includes business, professional and civic leaders. Directors serve on the Board without compensation from Metropolitan. Voting is based on assessed valuation, with each member agency being entitled to cast one vote for each $10 million or major fractional part of $10 million of assessed valuation of property within the member agency, as shown by the assessment records of the county in which the member agency is located. The Board administers its policies through the Metropolitan Water District Administrative Code (the "Administrative Code"), which was adopted by the Board in 1977. The Administrative Code is periodically amended to reflect new policies or changes in existing policies that occur from time to time.

Management

Metropolitan's day-to-day management is under the direction of its General Manager, who serves at the pleasure of the Board, as do Metropolitan's General Counsel, General Auditor and Ethics Officer. Following is a biographical summary of Metropolitan's principal executive officers.

Jeffrey Kightlinger, General Manager – Mr. Kightlinger was appointed as General Manager in February 2006, leaving the position of General Counsel, which he had held since February 2002. Before becoming General Counsel, Mr. Kightlinger was a Deputy General Counsel and then Assistant General Counsel, representing Metropolitan primarily on Colorado River matters, environmental issues, water rights and a number of Metropolitan's water transfer and storage programs. Prior to joining Metropolitan in 1995, Mr. Kightlinger worked in private practice representing numerous public agencies including municipalities,

redevelopment agencies and special districts. Mr. Kightlinger earned his bachelor's degree in history from the University of California, Berkeley, and his law degree from Santa Clara University.

Marcia Scully, General Counsel – Ms. Scully assumed the position of General Counsel in March 2012. She previously served as Metropolitan's Interim General Counsel from March 2011 to March 2012. Ms. Scully joined Metropolitan in 1995, after a decade of private law practice, providing legal representation to Metropolitan on construction, employment, Colorado River and significant litigation matters. From 1981 to 1985 she was assistant city attorney for the City of Inglewood. Ms. Scully served as president of University of Michigan's Alumnae Club of Los Angeles and is a recipient of the 1996 State Bar of California, District 7 President's Pro Bono Service Award and the Southern California Association of Non-Profit Housing Advocate of the Year Award. She is also a member of the League of Women Voters for Whittier and was appointed for two terms on the City of Whittier's Planning Commission, three years of which were served as chair. Ms. Scully earned a bachelor's degree in liberal arts from the University of Michigan, a master's degree in urban planning from Wayne State University and law degree from Loyola Law School.

Gerald C. Riss, General Auditor – Mr. Riss was appointed as Metropolitan's General Auditor in July 2002 and is responsible for the independent evaluation of the policies, procedures and systems of control throughout Metropolitan. Mr. Riss is a certified fraud examiner, certified financial services auditor and certified risk professional with more than 25 years of experience in accounting, audit and risk management. Prior to joining Metropolitan, Mr. Riss was Vice President and Assistant Division Head of Risk Management Administration at United California Bank/Bank of the West. He also served as Senior Vice President, director of Risk Management and General Auditor of Tokai Bank of California from 1988 until its reorganization as United California Bank in 2001. He earned a bachelor's degree in accounting and master's degree in business administration from Wayne State University in Detroit, Michigan.

Deena Ghaly, Ethics Officer – Ms. Ghaly was appointed Ethics Officer in November 2012. Ms. Ghaly joined Metropolitan with over 20 years of legal and ethics-related experience. Prior to joining Metropolitan, she served as an administrative law judge for the California Office of Administrative Hearings. She previously was head of enforcement and general counsel for the Los Angeles City Ethics Commission, which administers and enforces the laws regarding campaign contributions, lobbying, and government ethics for the city of Los Angeles. Before moving to Southern California in 2001, Ms. Ghaly lived and worked in New York City, where she headed the labor department in the general counsel's office of a large city agency. Licensed to practice law in California, New York and New Jersey, Ms. Ghaly is knowledgeable in workplace investigations, government ethics, regulatory affairs, and labor and employment matters. She has lectured throughout the nation on various topics, including parallel criminal and administrative prosecution, due process in administrative procedures, and effective internal investigations. Ms. Ghaly earned a bachelor's degree in philosophy from Wellesley College in Massachusetts and a law degree from Cornell Law School.

Gary Breaux, Assistant General Manager/Chief Financial Officer – Mr. Breaux has had extensive experience working for local governments since 1983. From 1994 until joining Metropolitan in October 2011, he served as Director of Finance for East Bay Municipal Utility District (EBMUD). At EBMUD, he was responsible for all financial areas, including treasury operations, debt management, rates, internal audit, accounting and reporting, risk management and customer and community services. Prior to joining EBMUD, he was Director of Finance for the City of Oakland, California. A native of Colorado, Mr. Breaux received a Bachelor of Science degree in Business from the University of Colorado in 1977 and a master's degree in Public Administration in 1987 from Virginia Commonwealth University. He is a Certified Public Accountant. Mr. Breaux is a member of the American Water Works Association and the American Institute of Certified Public Accountants.

Debra Man, Assistant General Manager/Chief Operating Officer – Ms. Man was appointed to this position in December 2003. Ms. Man has worked at Metropolitan since 1986, beginning as an engineer and advancing to Chief of the Planning and Resources Division. As Chief of Planning and Resources she was responsible for major initiatives adopted by Metropolitan's Board, such as the Integrated Water Resources

Plan, rate structure, and facility plans for expansion of Metropolitan's distribution system. In 1999, she was appointed as Vice President of Water Transfers and Exchanges, responsible for securing water supplies through agreements and partnerships with other water and agricultural interests in San Joaquin Valley and Southern California and demonstrating Metropolitan's water supply reliability in compliance with current laws. Ms. Man is a registered professional civil engineer in California and Hawaii. She has a master's degree in civil/environmental engineering from Stanford University and a bachelor's degree in civil engineering from the University of Hawaii.

Roger Patterson, Assistant General Manager/Strategic Initiatives – Mr. Patterson was appointed Assistant General Manager in March 2006. He is responsible for overseeing water supply and planning issues, including the Colorado River and State Water Project. He previously served as a consultant to Metropolitan on Colorado River issues. Mr. Patterson was the director of the Nebraska Department of Natural Resources from 1999 to 2005, where he was responsible for water administration, water planning, flood-plain delineation, dam safety and the state databank. Prior to his work in Nebraska, Mr. Patterson spent 25 years with the Bureau of Reclamation, retiring from the Bureau as the Regional Director for the Mid-Pacific Region. He is a registered professional engineer in Nebraska and Colorado, and earned bachelor's and master's degrees in engineering from the University of Nebraska.

Gilbert F. Ivey, Assistant General Manager/Chief Administrative Officer – Mr. Ivey is the Chief Administrative Officer and is responsible for human resources, real property management, strategic land development and Metropolitan's small business program. Mr. Ivey has been with Metropolitan for 40 years, starting as a summer trainee in the Engineering Division. He has held various positions in Finance, Right-of-Way and Land, Operation, Human Resources and Executive Offices. He earned a bachelor's degree in business administration from California State University, Dominquez Hills and holds various professional designations and certifications in management from Pepperdine University and the University of Southern California.

Linda Waade, Deputy General Manager/External Affairs – Ms. Waade is responsible for Metropolitan's communications, outreach, education and legislative matters. Prior to joining Metropolitan in August 2006, she coordinated government and community affairs for the Los Angeles office of CH2M Hill, Inc., where she provided counsel on policy development and outreach strategies for environmental and public works projects. She also maintained her own consulting firm, Waade Partners Consulting. Ms. Waade was deputy chief of staff and policy director for then Los Angeles City Councilmember Antonio R. Villaraigosa from July 2003 to January 2004. She served as transportation policy advisor for Los Angeles Mayor Tom Bradley from 1991-93, as chief of staff for U.S. Congressman Mel Levine in his Los Angeles district office from 1988-89 and as the congressman's special assistant for environmental affairs from 1987-88, and was executive director of the Coalition for Clean Air, a statewide advocacy organization dedicated to air quality issues, from 1994-98. Ms. Waade earned a bachelor's degree in political science from California State University at Los Angeles. She is a past recipient of the "Environmental Leadership Award" from the California League of Conservation Voters.

Employee Relations

The total number of regular full-time Metropolitan employees on May 15, 2013 was 1,727, of whom 1,209 were represented by AFSCME Local 1902, 96 by the Supervisors Association, 268 by the Management and Professional Employees Association and 136 by the Association of Confidential Employees. The remaining 18 employees are unrepresented. The four bargaining units represent 99 percent of Metropolitan's employees. The Memorandum of Understanding ("MOU") with the Association of Confidential Employees covers the period January 1, 2011 through December 31, 2015. The MOUs with the Management and Professional Employees Association and with AFSCME Local 1902 cover the period January 1, 2011 to December 31, 2016. The MOU with the Supervisors Association covers the period September 13, 2011 to December 31, 2016.

Risk Management

Metropolitan is exposed to various risks of loss related to the design, construction, treatment and delivery of water. With the assistance of third party claims administrators, Metropolitan is self-insured for liability, property and workers' compensation. Metropolitan self-insures the first $25 million per liability occurrence, with commercial liability coverage of $75 million in excess of the self-insured retention. The $25 million self-insured retention is maintained as a separate restricted reserve. Metropolitan is also self-insured for loss or damage to its property, with the $25 million self-insured retention also being accessible for emergency repairs and Metropolitan property losses. In addition, Metropolitan obtains other excess and specialty insurance coverages such as directors' and officers' liability, fiduciary liability and aircraft hull and liability coverage.

Metropolitan self-insures the first $5 million for workers' compensation with excess coverage of $50 million. Metropolitan separately funds remaining workers' compensation and general liability claims arising from the Diamond Valley Lake and early portions of the Inland Feeder construction projects, which were insured through Owner Controlled Insurance Programs ("OCIPs"). The OCIPs for those projects have been concluded. The costs to settle and close the remaining claims for the Diamond Valley Lake and Inland Feeder construction projects are estimated to be $1 million and $300,000, respectively.

The self-insurance retentions and reserve levels currently maintained by Metropolitan may be modified by Metropolitan's Board at its sole discretion.

METROPOLITAN REVENUES

General

Until water deliveries began in 1941, Metropolitan's activities were, by necessity, supported entirely through the collection of *ad valorem* property taxes. Since the mid-1980s, water sales revenues have provided approximately 75 to 80 percent of total revenues and *ad valorem* property taxes have accounted for about 10 percent of revenues, declining to five percent of revenues in fiscal year 2012-13. The remaining revenues have been derived principally from the sale of hydroelectric power, interest on investments and additional revenue sources (water standby charges and availability of service charges) beginning in 1993. *Ad valorem* taxes do not constitute a part of Operating Revenues and are not available to make payments with respect to the water revenue bonds issued by Metropolitan.

Generally, Metropolitan has constitutional and statutory authority, as well as voter authorization, to levy *ad valorem* property taxes as needed to pay its outstanding general obligation bonds and State Water Contract payments. Currently, *ad valorem* taxes are applied solely to pay Metropolitan's general obligation bonds and a small portion of State Water Contract payments, pursuant to MWD Act requirements that limit property tax collections to the amount necessary to pay annual debt service on Metropolitan's general obligation bonds plus the portion of its State Water Contract payment obligation attributable to the debt service on State general obligation bonds for facilities benefitting Metropolitan that were outstanding as of 1990-91. Metropolitan's *ad valorem* property tax revenue has been decreasing, and will continue to decrease, as the bonds are retired. The MWD Act permits Metropolitan to set aside the prescribed reductions in the tax rate if the Board, following a public hearing with 10 days' prior written notice to the Speaker of the California Assembly and the President pro Tempore of the Senate, finds that such revenue is "essential to the fiscal integrity of the district." On June 11, 2013, following such a public hearing, the Board adopted a resolution finding that maintaining the *ad valorem* tax rate for fiscal year 2013-14 is essential to the fiscal integrity of Metropolitan and determining that the tax limit clause in the MWD Act is suspended for fiscal year 2013-14 and the board may levy taxes at the tax rate levied for fiscal year 2012-13 (.0035% of assessed valuation, excluding annexation levies). Factors considered by the Board included current and future State Water Contract payment obligations and a balancing of proper mechanisms for funding them, the appropriate mix of property taxes and water rates and charges to enhance Metropolitan's fiscal stability and a fair distribution of costs across Metropolitan's service area.

The basic rate for untreated water for domestic and municipal uses increased from $8 per acre-foot in fiscal year 1941-42 to the rate of $593 per acre-foot for Tier 1 water, effective January 1, 2013. The *ad valorem* tax rate for Metropolitan purposes has gradually been reduced from a peak equivalent rate of 0.1250 percent of full assessed valuation in fiscal year 1945-46 to 0.0035 percent of full assessed valuation for fiscal year 2012-13. See "—Rate Structure" below. The rates charged by Metropolitan represent the wholesale cost of Metropolitan water to its member agencies, and not the cost of water to the ultimate consumer. Metropolitan does not exercise control over the rates charged by its member agencies or their subagencies to their customers.

Summary of Receipts by Source

The following table sets forth Metropolitan's sources of receipts for the five fiscal years ended June 30, 2012. The table provides cash basis information, which is unaudited. Audited financial statements for the fiscal years ended June 30, 2012 and June 30, 2011 are provided in Appendix B - "THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA INDEPENDENT AUDITOR'S REPORT AND FINANCIAL STATEMENTS AS OF FISCAL YEARS ENDED JUNE 30, 2012 AND JUNE 30, 2011 AND STATEMENTS OF NET POSITION AND STATEMENTS OF REVENUES, EXPENSES AND CHANGES IN NET POSITION AS OF AND FOR THE NINE MONTHS ENDED MARCH 31, 2013 AND 2012 (UNAUDITED)."

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SUMMARY OF RECEIPTS BY SOURCE[1]
Fiscal Years Ended June 30
(Dollars in Millions)

	2008	2009	2010	2011	2012
Water Sales[2]	$ 967.8	$988.1	$1,011.1	$ 995.6	$ 1,062.5
Net Tax Collections[3]	100.4	105.2	97.3	88.0	90.1
Additional Revenue Sources[4]	114.0	119.7	135.3	153.5	167.1
Interest on Investments	60.3	33.7	26.7	18.9	17.8
Hydroelectric Power Sales	41.1	22.5	18.8	22.1	31.0
Other Collections & Trust Funds[5]	8.1	3.1	9.1	61.0	53.6
Total Receipts	$1,291.7	$1,272.3	$1,298.3	$1,339.1	$1,422.1

Source: Metropolitan.

(1) Does not include any proceeds from the sale of bonded indebtedness.
(2) Gross receipts in each year are for sales in the twelve months ended April 30 of such year. Water sales revenues include revenues from water wheeling and exchanges. See "METROPOLITAN REVENUES—Wheeling and Exchange Charges" in this Appendix A. Includes $25.7 million in fiscal year 2010-11, from the Calleguas Municipal Water District related to termination of the Las Posas water storage program.
(3) *Ad valorem* taxes levied by Metropolitan are applied solely to the payment of outstanding general obligation bonds of Metropolitan and a portion of State Water Contract payments.
(4) Includes receipts derived from water standby charges, readiness-to-serve, and connection maintenance or capacity charges. See "—Rate Structure" and "—Additional Revenue Components" below.
(5) In fiscal year 2010-11 includes $10.8 million reimbursement from State Proposition 13 bond funds and $28.2 million from the termination of the Las Posas water storage program. In fiscal year 2011-12, includes $27.5 million from CVWD for delivery of 105,000 acre-feet under an exchange agreement between Metropolitan and CVWD.

Revenue Allocation Policy and Tax Revenues

The Board determines the water revenue requirement for each fiscal year after first projecting the *ad valorem* tax levy for that year. The tax levy for any year is subject to limits imposed by the State Constitution, the Act and Board policy. The tax levy is set to not exceed the amount needed to pay debt service on Metropolitan's general obligation bonds and a portion of Metropolitan's share of the debt service on the general obligation bonds issued by the State to finance the State Water Project. Any deficiency between tax levy receipts and Metropolitan's share of debt service obligations on general obligation bonded debt issued by the State is expected to be paid from Operating Revenues, as defined in the Master Resolution. See "HISTORICAL AND PROJECTED REVENUES AND EXPENDITURES" in this Appendix A. On June 11, 2013, the Board suspended the tax limit clause in the Act and, for fiscal year 2013-14, maintained the fiscal year 2012-13 ad valorem tax rate. See "METROPOLITAN REVENUES—General" above. The State Water Contract requires that in the event that Metropolitan fails or is unable to raise sufficient funds by other means, Metropolitan must levy upon all property within its boundaries not exempt from taxation a tax or assessment sufficient to provide for all payments under the State Water Contract.

Water Sales Revenues

Authority. Water rates are established by the Board and are not subject to regulation or approval by the Public Utilities Commission of California or by any other local, State or federal agency. In accordance with the Act, water rates must be uniform for like classes of service. Metropolitan has provided three classes of water service: (1) full service; (2) replenishment (discontinued effective December 31, 2012); and (3) interim agricultural (discontinued effective December 31, 2012). See "—Classes of Water Service" below.

No member agency of Metropolitan is obligated to purchase water from Metropolitan. However, 24 of Metropolitan's 26 member agencies entered into voluntary water supply purchase orders for water purchases, which had initial 10-year terms ending December 31, 2012. Twenty-two of such purchase orders have been extended to December 31, 2014, as described under "—Member Agency Purchase Orders" below. Consumer demand and locally supplied water vary from year to year, resulting in variability in water sales revenues. Metropolitan uses its financial reserves and budgetary tools to manage the financial impact of the variability in revenues due to fluctuations in annual water sales. See "MANAGEMENT'S DISCUSSION OF HISTORICAL AND PROJECTED REVENUES AND EXPENDITURES" in this Appendix A.

Payment Procedure. Water is delivered to the member agencies on demand and is metered at the point of delivery. Member agencies are billed monthly and a late charge of one percent of the delinquent payment is assessed for a payment that is delinquent for no more than five business days. A late charge of two percent of the amount of the delinquent payment is charged for a payment that is delinquent for more than five business days for each month or portion of a month that the payment remains delinquent. Metropolitan has the authority to suspend service to any member agency delinquent for more than 30 days. Delinquencies have been rare; in such instances late charges have been collected. No service has been suspended because of delinquencies.

Water Sales. The following table sets forth the acre-feet of water sold and water sales receipts (including receipts from water wheeling and exchanges) for the five fiscal years ended June 30, 2012. The table provides cash basis information. Water sales revenues of Metropolitan for the two fiscal years ended June 30, 2012 and June 30, 2011, respectively, on an accrual basis, are shown in Appendix B - "THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA INDEPENDENT AUDITOR'S REPORT AND FINANCIAL STATEMENTS AS OF FISCAL YEARS ENDED JUNE 30, 2012 AND JUNE 30, 2011 AND STATEMENTS OF NET POSITION AND STATEMENTS OF REVENUES, EXPENSES AND CHANGES IN NET POSITION AS OF AND FOR THE NINE MONTHS ENDED MARCH 31, 2013 AND 2012 (UNAUDITED)."

SUMMARY OF WATER SOLD AND WATER SALES RECEIPTS
Fiscal Years Ended June 30
(Cash Basis)

Year	Acre-Feet[1] Sold	Gross Receipts[4] (in millions)	Average Receipts Per Acre Foot[5]	Average Rate Per 1000 Gallons
2008	2,305,364	$ 967.8	$ 420	$ 1.29
2009	2,166,936	988.1	456	1.40
2010	1,857,564	1,011.1	544	1.67
2011[2]	1,632,277	995.6	610	1.87
2012[3]	1,676,855	1,062.5	634	1.94

Source: Metropolitan.

(1) Year ended April 30.
(2) Includes the sale of 34,519 acre-feet and the receipt of $25.7 million from the Calleguas Municipal Water District related to termination of the Las Posas water storage program.
(3) Includes 225,000 acre-feet of replenishment sales.
(4) Gross receipts in each year are for sales in the twelve months ended April 30 of such year, with rates and charges invoiced in May and payable by the last business day of June of each year. Includes revenues from water wheeling and exchanges. See "METROPOLITAN REVENUES—Wheeling and Exchange Charges" in this Appendix A.
(5) Gross receipts divided by acre-feet sold. An acre-foot is approximately 326,000 gallons. See table entitled "SUMMARY OF WATER RATES" in this Appendix A for a description of water rates and classes of service.

Rate Structure

The following rates and charges are elements of Metropolitan's rate structure for full service water deliveries:

Tier 1 and Tier 2 Water Supply Rates. The Tier 1 and Tier 2 Water Supply Rates are designed to recover Metropolitan's water supply costs. The Tier 2 Supply Rate is designed to reflect Metropolitan's costs of acquiring new supplies. Member agencies are charged the Tier 1 or Tier 2 Water Supply Rate for water purchases, as described under "–Member Agency Purchase Orders" below.

System Access Rate. The System Access Rate is intended to recover a portion of the costs associated with the conveyance and distribution system, including capital, operating and maintenance costs. All users (including member agencies and third-party entities wheeling or exchanging water; see "—Wheeling and Exchange Charges" below) of the Metropolitan system pay the System Access Rate.

Water Stewardship Rate. The Water Stewardship Rate is charged on a dollar per acre-foot basis to collect revenues to support Metropolitan's financial commitment to conservation, water recycling, groundwater recovery and other water management programs approved by the Board. The Water Stewardship Rate is charged for every acre-foot of water conveyed by Metropolitan because all users of Metropolitan's system benefit from the system capacity made available by investments in demand management programs.

System Power Rate. The System Power Rate is charged on a dollar per acre-foot basis to recover the cost of power necessary to pump water from the State Water Project and Colorado River through the conveyance and distribution system for Metropolitan's member agencies. The System Power Rate is charged for all Metropolitan supplies. Entities wheeling non-Metropolitan water supplies will pay the actual cost of power to convey water on the State Water Project, the Colorado River Aqueduct or the Metropolitan distribution system, whichever is applicable.

Treatment Surcharge. Metropolitan charges a treatment surcharge on a dollar per acre-foot basis for treated deliveries. The treatment surcharge is set to recover the cost of providing treated water service, including capital and operating cost.

Water Supply Surcharge. Effective January 1, 2009, Metropolitan adopted a Water Supply Surcharge of $25 per acre-foot, applicable to Full Service Tier 1 untreated and treated water rates and to the Interim Agricultural Water Program untreated and treated water rates. The Water Supply Surcharge was intended to recover the costs of additional water transfers purchased to augment supplies from the State Water Project. These costs were anticipated to be about $50 million in fiscal year 2008-09. However, on April 14, 2009 Metropolitan's Board adopted a Delta Supply Surcharge, which, effective September 1, 2009, eliminated and replaced the Water Supply Surcharge. See "*—Delta Supply Surcharge*" below.

Delta Supply Surcharge. On April 13, 2010, Metropolitan's Board adopted a Delta Supply Surcharge of $51 and $58 per acre-foot, effective January 1, 2011 and January 1, 2012, respectively, and applicable to all Tier 1, Interim Agricultural Water Program and Replenishment water rates. The Delta Supply Surcharge was designed to recover the additional supply costs Metropolitan faces as a result of pumping restrictions associated with the USFWS biological opinion on Delta smelt and other actions to protect endangered fish species. The Delta Surcharge was intended to remain in effect until a long-term solution for the Bay-Delta is achieved. Metropolitan anticipated that the Delta Supply Surcharge would be reduced or suspended as interim Delta improvements ease pumping restrictions, resulting in lower costs for additional supplies. On April 10, 2012, the Board suspended the Delta Supply Surcharge, effective July 1, 2012.

The amount of each of these rates since January 1, 2007, is shown in the table entitled "SUMMARY OF WATER RATES" under "—Water Rates by Water Category" below.

Litigation Challenging Rate Structure

SDCWA filed *San Diego County Water Authority v. Metropolitan Water District of Southern California, et al.* on June 11, 2010. The complaint alleges that the rates adopted by the Board on April 13, 2010, which became effective January 1, 2011, misallocate State Water Contract costs to the System Access Rate and the System Power Rate, and thus to charges for transportation of water, and that this results in an overcharge to SDCWA by at least $24.5 million per year. The complaint alleges that all State Water Project costs should be allocated instead to Metropolitan's Supply Rate, even though under the State Water Contract Metropolitan is billed separately for transportation, power and supply costs. It states additionally that Metropolitan will overcharge SDCWA by another $5.4 million per year by including the Water Stewardship Rate in transportation charges. Eight of Metropolitan's member agencies (the Cities of Glendale, Los Angeles and Torrance, Municipal Water District of Orange County and Foothill, Las Virgenes, Three Valleys and West Basin Municipal Water Districts) answered the complaint in support of Metropolitan. IID joined the litigation in support of SDCWA's challenge to Metropolitan's charges for transportation of water.

The complaint requested a court order invalidating the rates and charges adopted April 13, 2010, and that Metropolitan be mandated to allocate costs associated with State Water Project supplies and the Water Stewardship Rate to water supply charges and not to transportation charges. Rates in effect in prior years are not challenged in this lawsuit. Metropolitan contends that its rates are reasonable, equitably apportioned among its member agencies and lawful, and were adopted under a valid rate structure and cost of service approach developed in a multi-year collaborative process with its member agencies that has been in place since 2002. Nevertheless, to the extent that a court invalidates Metropolitan's adopted rates and charges, Metropolitan will be obligated to adopt rates and charges that comply with any mandates imposed by the court. Metropolitan expects that such rates and charges would still recover Metropolitan's cost of service. As such, revenues would not be affected. If Metropolitan's rates are revised in the manner proposed by SDCWA in the complaint, other member agencies may pay higher rates unless other actions are taken by the Board.

SDCWA filed its First Amended Petition for Writ of Mandate and Complaint on October 27, 2011, adding five new claims to this litigation, two of which were eliminated from the case on January 4, 2012. The three remaining new claims are for breach of the water exchange agreement between Metropolitan and SDCWA (described herein under "METROPOLITAN'S WATER SUPPLY—Colorado River Aqueduct—*Sale of Water by the Imperial Irrigation District to San Diego County Water Authority*") based on allegedly illegal calculation of rates; improper exclusion of SDCWA's payments under this exchange agreement from calculation of SDCWA's preferential rights to purchase Metropolitan supplies (see "—Preferential Rights" below); and illegality of "rate structure integrity" provisions in conservation and local resources incentive agreements between Metropolitan and SDCWA. Such "rate structure integrity" provisions permit the Board to terminate incentives payable under conservation and local resources incentive agreements between Metropolitan and a member agency due to certain actions by the member agency to challenge the rates that are the source of incentive payments. In June 2011, Metropolitan's Board authorized termination of two incentive agreements with SDCWA under the "rate structure integrity" provisions in such agreements after SDCWA filed its initial complaint challenging Metropolitan's rates. SDCWA filed a Second Amended Petition for Writ of Mandate and Complaint on April 17, 2012, which contains additional allegations but no new causes of action. While believing that the three surviving claims added to the challenge to Metropolitan's rates adopted in April 2010 lack merit, Metropolitan is unable to assess at this time the likelihood of success of these or any future claims or the potential impact on Metropolitan's revenues or operations.

Metropolitan held $13 million in its financial reserves pursuant to the exchange contract between Metropolitan and SDCWA as of June 30, 2011, due to SDCWA's litigation challenging Metropolitan's rate structure. This amount increased to $50 million as of the end of fiscal year 2011-12 and $84.4 million as of May 31, 2013. See "—Financial Reserve Policy" below. Amounts held pursuant to the exchange agreement will continue to accumulate based on the quantities of exchange water that Metropolitan provides to SDCWA

and the amount of charges disputed by SDCWA. These amounts are transferable to SDCWA if it prevails in the litigation.

On June 8, 2012, SDCWA filed a new lawsuit challenging the rates adopted by Metropolitan on April 10, 2012 and effective on January 1, 2013 and January 1, 2014. See "–Rate Structure" above and "–Water Rates by Water Category" below for a description of Metropolitan's water rate structure and the rates and charges adopted on April 10, 2012. The complaint contains allegations similar to those in the Second Amended Petition for Writ of Mandate and Complaint and new allegations asserting that Metropolitan's rates, adopted in April 2012, violate Proposition 26. See "–California Ballot Initiatives" below for a description of Proposition 26. Metropolitan contends that its rates adopted on April 10, 2012 are reasonable, equitably apportioned among its member agencies and lawful and were adopted under a valid rate structure and cost of service approach. Metropolitan will defend this new litigation. Ten of Metropolitan's member agencies (the eight member agency parties to SDCWA's first lawsuit, Eastern Municipal Water District and Western Municipal Water District of Riverside County) answered the complaint in support of Metropolitan and IID joined the litigation in support of SDCWA. Metropolitan is unable to assess at this time the likelihood of success of this litigation or any future claims.

SDCWA filed a Third Amended Petition for Writ of Mandate and Complaint on January 23, 2013, to add new allegations that Metropolitan's rates adopted in April 2010 did not meet the requirements of Proposition 26, approved by California voters in November 2010. The court granted Metropolitan's motion to strike allegations relating to Proposition 26 on March 29, 2013, expressly ruling that SDCWA may not allege a violation of Proposition 26 in its challenge to the rates adopted in April 2010. This ruling does not affect SDCWA's separate challenge to Metropolitan's rates adopted in April 2012, which also includes Proposition 26 allegations.

Member Agency Purchase Orders

The current rate structure provides for a member agency's agreement to purchase water from Metropolitan by means of a voluntary purchase order. In consideration of executing its purchase order, each member agency that executed a purchase order and whose purchase order is in effect will be allowed to purchase up to 90 percent of its base amount at the Tier 1 Water Supply Rate in any fiscal year during the term of the purchase order, and its base amount will be the greater of (1) its highest firm demand for Metropolitan water in any fiscal year from 1989-90 through 2001-02 or (2) its ten-year rolling average of firm demand for Metropolitan water. Amounts purchased by such agencies over the applicable base amount will be priced at the Tier 2 Water Supply Rate. See "—Rate Structure—*Tier 1 and Tier 2 Water Supply Rates*" above. Member agencies that do not have purchase orders in effect will be subject to Tier 2 Water Supply Rates for amounts exceeding 60 percent of their base amount (equal to the member agency's highest fiscal year demand between 1989-90 and 2001-02).

Under each purchase order, a member agency agrees to purchase, over the term of the contract, an amount of water equal to at least 60 percent of its highest firm demand for Metropolitan water in any fiscal year from 1989-90 through 2001-02 multiplied by the number of years in the contract. Member agencies are allowed to vary their purchases from year to year, but a member agency will be obligated to pay for the full amount committed under the purchase order, even if it does not take its full purchase order commitment by the end of the contract period.

Twenty-four of Metropolitan's 26 member agencies executed purchase orders for an aggregate of 12.5 million acre-feet of water over the ten years ending December 31, 2012. As of May 31, 2011, 23 of the 24 member agencies with purchase orders had met their purchase order commitments. On November 8, 2011, Metropolitan's Board authorized the General Manager to execute a withdrawal of the City of Compton's Purchase Order committing to purchase 33,720.6 acre-feet over the original ten-year period. The withdrawal was effective January 1, 2003. This lowered Compton's Tier 1 limit as if its Purchase Order had not been executed and Compton will pay the Tier 2 Supply Rate on any future water purchases over the lower limit.

On October 10, 2012, Metropolitan's Board authorized the General Manager to execute an amended and restated purchase order to provide a two-year extension of existing member agency purchase orders, previously set to expire on December 31, 2012. Twenty-two of the 23 remaining purchase orders were extended to December 31, 2014. As of April 30, 2013, the aggregate unmet purchase order commitment was 560 acre-feet.

Classes of Water Service

Full Service Water. Full service water service, formerly known as non-interruptible water service, includes water sold for domestic and municipal uses. Full service treated water rates are the sum of the applicable supply rate, system access rate, water stewardship rate, system power rate and treatment surcharge. Full service untreated water rates are the sum of the applicable supply rate, system access rate, water stewardship rate and system power rate. Full service water sales are the major component of Metropolitan water sales.

Interim Agricultural Water Program. This program provided a discounted rate for agricultural water users that, pursuant to the Act, were permitted to receive only surplus water not needed for domestic or municipal purposes. Metropolitan delivered approximately 40,000 acre-feet of agricultural water under this program in fiscal year 2009-10, approximately 21,000 acre-feet in fiscal year 2010-11 and approximately 29,000 acre-feet in fiscal year 2011-12. On October 14, 2008, the Board approved annual reductions of the Interim Agricultural Water Program discount beginning January 1, 2010 and discontinuance of the program when the discount reached zero on January 1, 2013.

Replenishment. Under the Replenishment Service Program, water was sold at a discounted rate to member agencies, subject to interruption upon notice by Metropolitan. The program allowed Metropolitan to deliver surplus imported water to local groundwater basins and surface storage facilities when supplies were available, with the intent that member agencies could reduce imported water deliveries from Metropolitan during periods of high demand, emergencies or times of shortage. See table entitled "SUMMARY OF WATER RATES" below.

On December 11, 2012, Metropolitan's Board eliminated the Replenishment Service Program and approved adjustments to increase member agency Tier 1 limits to reflect the historical demand for water used for long-term groundwater and surface storage replenishment. See "—Rate Structure—*Tier 1 and Tier 2 Water Supply Rates*" above. Water for groundwater replenishment now is priced at applicable full service rates. This adjustment provides additional Tier 1 limits for member agencies that historically purchased water for long-term replenishment purposes and limits their exposure to the higher Tier 2 rates. Metropolitan and its member agencies continue discussions of a potential water storage program that would encourage storing water locally and provide regional benefit.

Water Rates by Water Category

The following table sets forth Metropolitan's water rates by category beginning January 1, 2008. See also "MANAGEMENT'S DISCUSSION OF HISTORICAL AND PROJECTED REVENUES AND EXPENDITURES—Water Sales Receipts" in this Appendix A. In addition to the base rates for untreated water sold in the different classes of service, the columns labeled "Treated" include the surcharge that Metropolitan charges for water treated at its water treatment plants. See "—Rate Structure" and "—Classes of Water Service" above for a description of current rates. See "—Litigation Challenging Rate Structure" above for a description of litigation challenging Metropolitan's water rates.

SUMMARY OF WATER RATES
(Dollars per Acre-Foot)

	SUPPLY RATE		SYSTEM ACCESS RATE	WATER STEWARDSHIP RATE	SYSTEM POWER RATE	TREATMENT SURCHARGE
	Tier 1	Tier 2				
January 1, 2008	$ 73	$171	$143	$25	$110	$157
January 1, 2009	$134[1]	$250	$143	$25	$110	$167
September 1, 2009	$170[2]	$250	$154	$41	$119	$217
January 1, 2010	$170[2]	$280	$154	$41	$119	$217
January 1, 2011	$155[3]	$280	$204	$41	$127	$217
January 1, 2012	$164[3]	$290	$217	$43	$136	$234
January 1, 2013*	$140[4]	$290	$223	$41	$189	$254
January 1, 2014*	$148[4]	$290	$243	$41	$161	$297

	FULL SERVICE TREATED[5]		FULL SERVICE UNTREATED[6]		INTERIM AGRICULTURAL PROGRAM		REPLENISHMENT RATE	
	Tier 1	Tier 2	Tier 1	Tier 2	Treated	Untreated	Treated	Untreated
January 1, 2008	$508	$606	$351	$449	$394	$261	$390	$258
January 1, 2009	$579	$695	$412	$528	$465[1]	$322[1]	$436	$294
September 1, 2009	$701	$781	$484	$564	$587	$394	$558	$366
January 1, 2010	$701	$811	$484	$594	$615	$416	$558	$366
January 1, 2011	$744	$869	$527	$652	$687	$482	$601	$409
January 1, 2012	$794	$920	$560	$686	$765	$537	$651	$442
January 1, 2013*	$847	$997	$593	$743	**	**	**	**
January 1, 2014*	$890	$1,032	$593	$735	**	**	**	**

Source: Metropolitan.

* Rates effective January 1, 2013 and January 1, 2014 were adopted by Metropolitan's Board on April 10, 2012.
** The Interim Agricultural Water Program and Replenishment Service Program were discontinued after 2012.
(1) Includes $25 per acre-foot Water Supply Surcharge.
(2) Includes $69 per acre-foot Delta Supply Surcharge, which replaced Water Supply Surcharge.
(3) Includes $51 and $58 per acre-foot Delta Supply Surcharge for January 1, 2011 and January 1, 2012, respectively.
(4) Excludes Delta Supply Surcharge, which will be suspended for 2013 and 2014.
(5) Full service treated water rates are the sum of the applicable Supply Rate, System Access Rate, Water Stewardship Rate, System Power Rate and Treatment Surcharge.
(6) Full service untreated water rates are the sum of the applicable Supply Rate, System Access Rate, Water Stewardship Rate and System Power Rate.

Additional Revenue Components

Additional charges for the availability of Metropolitan's water are:

Readiness-to-Serve Charge. This charge is designed to recover a portion of the principal and interest payments on water revenue bonds issued to fund capital improvements necessary to meet continuing reliability and water quality needs. The Readiness-to-Serve Charge ("RTS") is allocated to each member agency in proportion to the rolling ten-year share of deliveries through Metropolitan's system. The RTS

generated $101.9 million in fiscal year 2009-10, $119.2 million in fiscal year 2010-11 and $133.9 million in fiscal year 2011-12.

Water Standby Charges. The Board is authorized to impose water standby or availability of service charges. In May 1993, the Board imposed a water standby charge for fiscal year 1993-94 ranging from $6.94 to $15 for each acre or parcel less than an acre within Metropolitan's service area, subject to specified exempt categories. Water standby charges have been imposed at the same rate in each year since 1993-94. Standby charges are assessments under the terms of Proposition 218, a State constitutional ballot initiative approved by the voters on November 5, 1996. See "—California Ballot Initiatives" below.

Member agencies have the option to utilize Metropolitan's existing standby charge authority as a means to collect all or a portion of their RTS charge. Standby charge collections are credited against the member agencies' RTS charges. See "*—Readiness-to-Serve Charge*" above. Twenty-two member agencies collect their RTS charges through standby charges. For fiscal years 2009-10, 2010-11 and 2011-12 RTS charges collected by means of such standby charges were $42.8 million, $43.2 million and $42.9 million, respectively.

Capacity Charge. The Capacity Charge is a fixed charge levied on the maximum summer day demand placed on Metropolitan's system between May 1 and September 30 for the three-calendar-year period ended December 31, 2010 and December 31, 2011, for charges effective 2012 and 2013 respectively. The Capacity Charge is intended to recover the cost of providing peak capacity within the distribution system. Effective January 1, 2012, the Capacity Charge was $7,400 per cfs of maximum daily flow, which decreased to $6,400 per cfs on January 1, 2013 and will increase to $8,600 per cfs on January 1, 2014.

Financial Reserve Policy

Metropolitan's reserve policy currently provides for a minimum unrestricted reserve balance at June 30 of each year that is based on probability studies of the wet periods that affect Metropolitan's water sales. The policy establishes a minimum targeted unrestricted reserve level based on an 18-month revenue shortfall estimate and a maximum level based on an additional two years revenue shortfall estimate. The Water Rate Stabilization and Revenue Remainder funds increased by $35.7 million in fiscal year 2008-09 and decreased by $29 million in fiscal year 2009-10 and $61 million during fiscal year 2010-11, which includes $13 million held in financial reserves pursuant to the exchange contract between Metropolitan and SDCWA (see "METROPOLITAN's WATER SUPPLY—Colorado River Aqueduct—*Sale of Water by the Imperial Irrigation District to San Diego County Water Authority*" in this Appendix A) due to the SDCWA litigation challenging Metropolitan's rate structure. See "METROPOLITAN REVENUES—Litigation Challenging Rate Structure" in this Appendix A. Additional transfers related to the SDCWA litigation were made during fiscal year 2011-12, such that this reserve increased to $50 million as of the end of fiscal year 2011-12. As of June 30, 2012, the minimum reserve requirement was $190 million. The maximum reserve limit at June 30, 2012 was $458 million. Funds representing the minimum reserve level are held in the Revenue Remainder Fund, and any funds in excess of the minimum reserve level (up to the maximum reserve level) are held in the Water Rate Stabilization Fund. Reserves at June 30, 2012 totaled $332 million, consisting of Water Rate Stabilization Fund, Revenue Remainder Fund and Water Stewardship Fund balances including the $50 million held in Metropolitan's financial reserves pursuant to the exchange contract between Metropolitan and SDCWA due to SDCWA's litigation challenging Metropolitan's rate structure and amounts held as collateral, from time to time, by Metropolitan's swap counterparties. The amount held due to SDCWA's litigation challenging Metropolitan's rate structure as of May 31, 2013 was $84.4 million. See "METROPOLITAN REVENUES—Rate Structure" and "—Litigation Challenging Rate Structure", "METROPOLITAN EXPENDITURES—Variable Rate and Swap Obligations" and "MANAGEMENT'S DISCUSSION OF HISTORICAL AND PROJECTED REVENUES AND EXPENDITURES—Water Sales Receipts" in this Appendix A and "THE MASTER RESOLUTION—Water Revenue Fund—*Revenue Remainder Fund*" in Appendix C—SUMMARY OF CERTAIN PROVISIONS OF THE RESOLUTIONS. Unrestricted reserves in excess of the maximum reserve level may be used for any lawful purpose of Metropolitan, as directed by

the Board. Consistent with State legislation, Metropolitan will ensure that any funds in excess of maximum reserve levels that are distributed to member agencies will be distributed in proportion to water sales revenues received from each member agency. On June 11, 2013, since reserve balances were projected on a modified accrual basis to be $75 million greater than the maximum reserve limit at June 30, 2013, the Board authorized the use of reserve amounts over the maximum reserve limit to be transferred to the Replacement and Refurbishment (PAYGO) Fund for capital projects, a trust to pre-fund Metropolitan's unfunded liability for other post-employment benefits (see "METROPOLITAN EXPENDITURES—Defined Benefit Pension Plan" in this Appendix A), and the Water Transfer Fund to offset future expenditures for water management actions. In addition, Metropolitan maintains various restricted reserves, including reserves for risk retention, operations and maintenance expenses, State Water Contract payments, and other obligations and purposes.

Wheeling and Exchange Charges

The process for the delivery of water not owned or controlled by Metropolitan is referred to as "wheeling." Under the current rate structure, wheeling parties pay the System Access Rate and Water Stewardship Rate, Treatment Surcharge (if applicable) and power costs for wheeling transactions. See "—Rate Structure" above. These payments are included in Net Operating Revenues. Wheeling and exchange revenues totaled $53.7 million during fiscal year 2009-10, $51.8 million during fiscal year 2010-11, and $89.6 million in fiscal year 2011-12. See "—Litigation Challenging Rate Structure" above for a description of litigation by the SDCWA and IID challenging Metropolitan's System Access Rate and Water Stewardship Rate.

Hydroelectric Power Recovery Revenues

Metropolitan has constructed 16 small hydroelectric plants on its distribution system. The plants are located in Los Angeles, Orange, Riverside and San Diego Counties at existing pressure control structures and other locations. The combined generating capacity of these plants is approximately 131 megawatts. The total capital cost of these 16 facilities is approximately $176.1 million. Since 2000, annual energy generation sales revenues have ranged between $16 million and nearly $30 million. Energy generation sales revenues were $22.1 million for fiscal year 2010-11 and $29.6 million in fiscal year 2011-12.

Power from five of the plants is sold to DWR under an existing contract at a price based on a contractual unit rate methodology to supply power to the State Water Project. The price is updated using an annual inflationary adjustment until the contract terminates in 2019.

Power from ten of the plants is sold to the Southern California Edison Company, a subsidiary of Edison International ("Edison"), LADWP and the Southern California Public Power Authority pursuant to contracts effective November 1, 2008. All three contracts are for the sale of renewable power and are based on a fixed energy rate for the term of the contracts. The minimum contract term is five years and maximum term is fifteen years. The Edison contract will terminate on October 31, 2013.

Energy generation from a sixteenth plant, the Etiwanda Power Plant, is sold to the Pacific Gas and Electric Company ("PG&E") under a contract that was amended in November 2004 to accommodate terminating transmission and scheduling arrangements. The contract energy price is based on a formula that includes a monthly gas rate, a capital related cost and a performance factor. The contract is subject to renegotiation upon the occurrence of specified events and can be terminated by either party under various conditions and circumstances, beginning in 2014.

Principal Customers

All of Metropolitan's regular customers are member agencies. Total water sales to the member agencies accrued for the fiscal year ended June 30, 2012 were 1.71 million acre-feet, generating $1.10 billion in water sales revenues for such period. Metropolitan's ten largest water customers in the year ended June 30,

2012 are shown in the following table, on an accrual basis. On June 11, 2010, the SDCWA filed litigation challenging Metropolitan's rates. See "—Litigation Challenging Rate Structure" above.

TEN LARGEST WATER CUSTOMERS
Year Ended June 30, 2012
Accrual Basis (Unaudited)

Agency	Water Sales Revenues	Percent of Total	Water Sales in Acre-Feet	Percent of Total
San Diego County Water Authority	$ 231,573,403	21.1%	437,559	25.6%
MWD of Orange County	175,764,840	16.0	255,570	15.0
City of Los Angeles	129,679,515	11.8	209,746	12.3
West Basin MWD	87,113,090	8.0	113,366	6.6
Calleguas MWD	78,808,781	7.2	102,684	6.0
Eastern MWD	62,578,807	5.7	90,956	5.3
Western MWD	53,107,772	4.8	76,783	4.5
Three Valleys MWD	40,067,057	3.7	62,197	3.6
Inland Empire Utilities Agency	38,581,286	3.5	76,203	4.5
Central Basin MWD	34,798,440	3.2	51,484	3.0
Total	$ 932,072,990	85.1%	1,476,547	86.5%
Total Water Sales Revenues	$ 1,095,742,520	**Total Acre-Feet**	1,707,534	

Source: Metropolitan.

Preferential Rights

Section 135 of the Act gives each of Metropolitan's member agencies a preferential entitlement to purchase a portion of the water served by Metropolitan, based upon a ratio of all payments on tax assessments and otherwise, except purchases of water, made to Metropolitan by the member agency compared to total payments made by all member agencies on tax assessments and otherwise since Metropolitan was formed, except purchases of water. Historically, these rights have not been used in allocating Metropolitan's water. The California Court of Appeal has upheld Metropolitan's methodology for calculation of the respective member agencies' preferential rights under Section 135 of the Act. SDCWA's litigation challenging Metropolitan's water rates also challenges Metropolitan's exclusion of payments for exchange water from the calculation of SDCWA's preferential right. See "—Litigation Challenging Rate Structure" above.

California Ballot Initiatives

Proposition 218, a State ballot initiative known as the "Right to Vote on Taxes Act," was approved by the voters on November 5, 1996 adding Articles XIIIC and XIIID to the California Constitution. Article XIIID provides substantive and procedural requirements on the imposition, extension or increase of any "fee" or "charge" levied by a local government upon a parcel of real property or upon a person as an incident of property ownership. As a wholesaler, Metropolitan serves water to its member agencies, not to persons or properties as an incident of property ownership. Thus, water rates charged by Metropolitan to its member agencies are not property related fees and charges and therefore are exempt from the requirements of Article XIIID. Fees for water service by Metropolitan's member agencies or their agencies providing retail water service are subject to the requirements of Article XIIID.

Article XIIID also imposes certain procedures with respect to assessments. Under Article XIIID, "standby charges" are considered "assessments" and must follow the procedures required for "assessments." Metropolitan has imposed water standby charges since 1992. Any change to Metropolitan's current standby charges could require notice to property owners and approval by a majority of such owners returning mail-in

ballots approving or rejecting any imposition or increase of such standby charge. Twenty-two member agencies have elected to collect all or a portion of their readiness-to-serve charges through standby charges. See "—Additional Revenue Components—*Readiness-to-Serve Charge*" and "—*Water Standby Charges*" above. Even if Article XIIID is construed to limit the ability of Metropolitan and its member agencies to impose or collect standby charges, the member agencies will continue to be obligated to pay the readiness-to-serve charges.

Article XIIIC extends the people's initiative power to reduce or repeal previously authorized local taxes, assessments fees and charges. This extension of the initiative power is not limited by the terms of Article XIIIC to fees imposed after November 6, 1996 or to property-related fees and charges and absent other authority could result in retroactive reduction in existing taxes, assessments or fees and charges.

Proposition 26, a State ballot initiative aimed at restricting regulatory fees and charges, was approved by the California voters on November 2, 2010. Proposition 26 broadens the definition of "tax" in Article XIIIC of the California Constitution to include levies, charges and exactions imposed by local governments, except for charges imposed for benefits or privileges or for services or products granted to the payor (and not provided to those not charged) that do not exceed their reasonable cost; regulatory fees that do not exceed the cost of regulation; fees for the use of local governmental property; fines and penalties imposed for violations of law; real property development fees; and assessments and property-related fees imposed under Article XIIID of the California Constitution. Taxes imposed by a special district such as Metropolitan are subject to approval by two-thirds of the voters voting on the ballot measure for authorization. Proposition 26 applies to charges imposed or increased by local governments after the date of its approval. Metropolitan believes its water rates and charges are not taxes under Proposition 26. Nevertheless, Metropolitan is assessing whether Proposition 26 may affect future water rates and charges. SDCWA's lawsuit challenging the rates adopted by Metropolitan in April 2012, part of which became effective January 1, 2013 and part of which will become effective January 1, 2014, alleges that such rates violate Proposition 26. (See "–Litigation Challenging Rate Structure" above.)

Propositions 218 and 26 were adopted as measures that qualified for the ballot pursuant to the State's initiative process. From time to time, other initiative measures could be adopted or legislative measures could be approved by the Legislature, which may place limitations on the ability of Metropolitan or its member agencies to increase revenues or to increase appropriations. Such measures may further affect Metropolitan's ability to collect taxes, assessments or fees and charges, which could have an effect on Metropolitan's revenues.

Investment of Moneys in Funds and Accounts

All moneys in any of the funds and accounts established pursuant to Metropolitan's water revenue or general obligation revenue bond resolutions are invested by the Treasurer in accordance with Metropolitan's Statement of Investment Policy. All Metropolitan funds available for investment are currently invested in United States Treasury and agency securities, commercial paper, negotiable certificates of deposit, banker's acceptances, corporate notes, municipal bonds, asset-backed, mortgage-backed securities and the California Local Agency Investment Fund ("LAIF"). The LAIF is a voluntary program created by statute as an investment alternative for California's local governments and special districts. LAIF permits such local agencies to participate in an investment portfolio, which invests billions of dollars, using the investment expertise of the State Treasurer's Office.

The Statement of Investment Policy provides that in managing Metropolitan's investments, the primary objective shall be to safeguard the principal of the invested funds. The secondary objective shall be to meet all liquidity requirements and the third objective shall be to achieve a return on the invested funds. Although the Statement of Investment Policy permits investments in some asset-backed securities, the portfolio does not include any of the special investment vehicles related to sub-prime mortgages. The

Statement of Investment Policy allows Metropolitan to exceed the portfolio and single issuer limits for purchases of California local agency securities when purchasing Metropolitan tendered bonds in conjunction with its self-liquidity program. See "METROPOLITAN EXPENDITURES—Variable Rate and Swap Obligations" in this Appendix A. Metropolitan's current investments comply with the Statement of Investment Policy.

As of May 31, 2013, the total market value of all Metropolitan funds was $1.21 billion, including bond reserves of $129.029 million and amounts held as collateral by Metropolitan's swap counterparties. See "METROPOLITAN EXPENDITURES—Variable Rate and Swap Obligations" in this Appendix A. The market value of Metropolitan's investment portfolio is subject to market fluctuation and volatility and general economic conditions. In fiscal year 2011-12, Metropolitan's earnings on investments, including adjustments for gains and losses and premiums and discounts, on a cash basis (unaudited) were $17.8 million. In fiscal year 2010-11, Metropolitan's earnings on investments, including adjustments for gains and losses and premiums and discounts, on a cash basis (unaudited), including construction account and trust fund earnings, were $20.0 million. In fiscal year 2009-10, Metropolitan's earnings on investments, including adjustments for gains and losses and premiums and discounts, on a cash basis (unaudited) were $29.5 million, including construction account and trust fund earnings. Over the three years ended May 31, 2013, the market value of the month-end balance of Metropolitan's investment portfolio (excluding bond reserve funds) averaged approximately $924.9 million. The minimum month-end balance of Metropolitan's investment portfolio (excluding bond reserve funds) during such period was approximately $737.7 million on October 31, 2010. See Footnote 3 to Metropolitan's audited financial statements in Appendix B for additional information on the investment portfolio.

Metropolitan's regulations require that (1) the Treasurer provide an annual Statement of Investment Policy for approval by Metropolitan's Board, (2) the Treasurer provide a monthly investment report to the Board and the General Manager showing by fund the description, maturity date, yield, par, cost and current market value of each security, and (3) the General Counsel review as to eligibility the securities invested in by the Treasurer for that month and report his or her determinations to the Board. The Board approved the Statement of Investment Policy for fiscal year 2013-14 on June 11, 2013.

Subject to the provisions of Metropolitan's water revenue or general obligation bond resolutions, obligations purchased by the investment of bond proceeds in the various funds and accounts established pursuant to a bond resolution are deemed at all times to be a part of such funds and accounts and any income realized from investment of amounts on deposit in any fund or account therein will be credited to such fund or account. The Treasurer is required to sell or present for redemption any investments whenever it may be necessary to do so in order to provide moneys to meet required payments or transfers from such funds and accounts. For the purpose of determining at any given time the balance in any such funds, any such investments constituting a part of such funds and accounts will be valued at the then estimated or appraised market value of such investments.

All investments, including those authorized by law from time to time for investments by public agencies, contain certain risks. Such risks include, but are not limited to, a lower rate of return than expected and loss or delayed receipt of principal. The occurrence of these events with respect to amounts held under Metropolitan's water revenue or general obligation revenue bond resolutions, or other amounts held by Metropolitan, could have a material adverse effect on Metropolitan's finances. These risks may be mitigated, but are not eliminated, by limitations imposed on the portfolio management process by Metropolitan's Statement of Investment Policy.

The Statement of Investment Policy requires that investments have a minimum credit rating of A1/P1/F1 for short-term securities and A for longer-term securities at the time of purchase. If immediate liquidation of a security downgraded below these levels is not in the best interests of Metropolitan, the Treasurer or investment manager, in consultation with an ad hoc committee made up of the Chairman of the Board, the Chairman of the Finance and Insurance Committee and the General Manager, and with the

concurrence of the General Counsel, may dispose of the security in an orderly and prudent manner considering the circumstances, under terms and conditions approved by a majority of the members of such ad hoc committee. The Treasurer is required to include a description of any securities that have been downgraded below investment grade and the status of their disposition in the Treasurer's monthly report.

The Statement of Investment Policy also limits the amount of securities that can be purchased by category, as well as by issuer, and prohibits investments that can result in zero interest income. Metropolitan's securities are settled on a delivery versus payment basis and are held by an independent third-party custodian. See Appendix B - "THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA INDEPENDENT AUDITOR'S REPORT AND FINANCIAL STATEMENTS AS OF FISCAL YEARS ENDED JUNE 30, 2012 AND JUNE 30, 2011 AND STATEMENTS OF NET POSITION AND STATEMENTS OF REVENUES, EXPENSES AND CHANGES IN NET POSITION AS OF AND FOR THE NINE MONTHS ENDED MARCH 31, 2013 AND 2012 (UNAUDITED)" for a description of Metropolitan's investments at June 30, 2012.

Metropolitan retains two outside investment firms to manage the long-term portion of Metropolitan's portfolio. The outside managers are required to adhere to Metropolitan's Statement of Investment Policy. As of April 30, 2013, such managers were managing approximately $329 million in investments on behalf of Metropolitan. Metropolitan's Statement of Investment Policy may be changed at any time by the Board (subject to State law provisions relating to authorized investments). There can be no assurance that the State law and/or the Statement of Investment Policy will not be amended in the future to allow for investments that are currently not permitted under State law or the Statement of Investment Policy, or that the objectives of Metropolitan with respect to investments or its investment holdings at any point in time will not change.

METROPOLITAN EXPENDITURES

General

The following table sets forth a summary of Metropolitan's expenditures, by major function, for the five years ended June 30, 2012. The table provides cash basis information, which is unaudited. Expenses of Metropolitan for the fiscal years ended June 30, 2012 and June 30, 2011, on an accrual basis, are shown in Appendix B - "THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA INDEPENDENT AUDITOR'S REPORT AND FINANCIAL STATEMENTS AS OF FISCAL YEARS ENDED JUNE 30, 2012 AND JUNE 30, 2011 AND STATEMENTS OF NET POSITION AND STATEMENTS OF REVENUES, EXPENSES AND CHANGES IN NET POSITION AS OF AND FOR THE NINE MONTHS ENDED MARCH 31, 2013 AND 2012 (UNAUDITED)."

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SUMMARY OF EXPENDITURES
Fiscal Years Ended June 30
(Dollars in Millions)

	2008	2009	2010	2011	2012
Operation and Maintenance Costs[1]	$ 416.9	$ 455.6	$ 441.6	$ 430.8	$ 425.3
Total State Water Project and Water Transfers[2]	564.9	478.8	560.1	593.4	535.4
Total Debt Service	268.5	281.6	287.0	306.7	323.0
Construction Disbursements from Revenues[3]	45.4	30.6	35.1	45.0	44.2
Other[4]	6.4	8.3	5.3	2.4	2.8
Total Disbursements (net of reimbursements)[5]	$1,302.1	$1,254.9	$1,329.1	$1,378.3	$1,334.3

Source: Metropolitan.

(1) Includes inventories, undistributed payroll, local resource programs, conservation programs and Colorado River Aqueduct power. See the table headed "Summary of Receipts by Source" under "METROPOLITAN REVENUES" in this Appendix A.

(2) Includes both operating and capital expense portions. See "METROPOLITAN'S WATER SUPPLY—Water Transfer, Storage and Exchange Programs" and "POWER SOURCES AND COSTS" in this Appendix A.

(3) At the discretion of the Board, in any given year, Metropolitan may increase or decrease funding available for construction disbursements to be paid from revenues. Disbursements paid from revenues decreased in fiscal years 2007-08 and 2008-09, primarily due to the Board's policy to maintain adequate reserve levels in the rate stabilization funds to mitigate future increases in water rates and charges. See "METROPOLITAN REVENUES—Financial Reserve Policy" in this Appendix A. Does not include expenditures of bond proceeds.

(4) Includes operating equipment and arbitrage rebate.

(5) Disbursements exceeded revenues in the fiscal years ended June 30, 2008, 2010 and 2011. See "METROPOLITAN REVENUES—Financial Reserve Policy" in this Appendix A.

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Revenue Bond Indebtedness

Metropolitan has issued the following water revenue bonds, which as of May 1, 2013, were outstanding in the amounts set forth below:

Name of Issue	Original Amount Issued	Principal Outstanding
Water Revenue Bonds, Issue of 1991	$ 300,000,000	$ -0-
Water Revenue Bonds, Issue of 1992	550,000,000	-0-
Water Revenue Refunding Bonds, 1993 Series A	168,759,889	105,185,000
Water Revenue Refunding Bonds, 1993 Series B	89,595,000	-0-
Water Revenue Bonds, 1995 Series A	175,000,000	-0-
Water Revenue Refunding Bonds, 1996 Series A	108,375,000	-0-
Water Revenue Refunding Bonds, 1996 Series B	258,875,000	-0-
Water Revenue Bonds, 1996 Series C	377,500,000	-0-
Water Revenue Bonds, 1997 Authorization, Series A	650,000,000	-0-
Water Revenue Bonds, 1997 Authorization, Series B and Series C	100,000,000	-0-
Water Revenue Refunding Bonds, 1998 Series A	148,705,000	-0-
Water Revenue Bonds, 1999 Authorization, Series A	100,000,000	-0-
Water Revenue Bonds, 1999 Authorization, Series B and Series C	100,000,000	-0-
Water Revenue Bonds, 2000 Authorization, Series B-1[(1)]	88,800,000	-0-
Water Revenue Bonds, 2000 Authorization, Series B-2[(1)**]	88,800,000	88,800,000
Water Revenue Bonds, 2000 Authorization, Series B-3 and B-4[(1)]	177,600,000	177,600,000
Water Revenue Refunding Bonds, 2001 Series A	195,670,000	-0-
Water Revenue Refunding Bonds, 2001 Series B1 and B-2	224,800,000	-0-
Water Revenue Bonds, 2001 Series C-1 and C-2	200,000,000	-0-
Water Revenue Refunding Bonds, 2002 Series A	96,640,000	-0-
Water Revenue Refunding Bonds, 2002 Series B	35,600,000	-0-
Water Revenue Refunding Bonds, 2003 Series A	36,215,000	25,910,000
Water Revenue Bonds, 2003 Authorization, Series B-1	105,580,000	-0-
Water Revenue Bonds, 2003 Authorization, Series B-2	94,420,000	-0-
Water Revenue Refunding Bonds, 2003 Series C-1, C-2 and C-3	338,230,000	-0-
Water Revenue Refunding Bonds, 2004 Series A-1 and A-2[(1)*]	162,455,000	94,530,000
Water Revenue Refunding Bonds, 2004 Series B	274,415,000	120,820,000
Water Revenue Bonds, 2003 Authorization, Series B-3	262,295,000	16,700,000
Water Revenue Bonds, 2003 Authorization, Series B-4	37,705,000	-0-
Water Revenue Refunding Bonds, 2004 Series C	136,090,000	-0-
Water Revenue Bonds, 2005 Authorization, Series A	100,000,000	80,855,000
Water Revenue Bonds, 2005 Authorization, Series B-1 and B-2	100,000,000	-0-
Water Revenue Refunding Bonds, 2006 Series A-1 and A-2	74,140,000	-0-
Water Revenue Bonds, 2005 Authorization, Series C	200,000,000	175,000,000
Water Revenue Bonds, 2005 Authorization, Series D-1 and D-2	100,000,000	-0-
Water Revenue Refunding Bonds, 2006 Series B	45,875,000	24,055,000
Water Revenue Bonds, 2006 Authorization, Series A	400,000,000	394,830,000
Water Revenue Bonds, 2006 Authorization, Series B	100,000,000	-0-
Water Revenue Refunding Bonds, 2007 Series A-1 and A-2	218,425,000	-0-
Water Revenue Refunding Bonds, 2007 Series B	81,900,000	-0-
Water Revenue Refunding Bonds, 2008 Series A-1[(1)*]	250,940,000	36,995,000
Water Revenue Refunding Bonds, 2008 Series A-2[(1)*]	250,635,000	150,385,000
Water Revenue Refunding Bonds, 2008 Series B	133,430,000	127,695,000
Water Revenue Refunding Bonds, 2008 Series C	79,045,000	55,110,000
Water Revenue Bonds, 2008 Authorization, Series A	200,000,000	191,970,000
Water Revenue Refunding Bonds, 2009 Series A-1[(1)***]	104,185,000	104,185,000
Water Revenue Refunding Bonds, 2009 Series A-2[(1)]	104,180,000	104,180,000
Water Revenue Refunding Bonds, 2009 Series B	106,690,000	106,690,000
Water Revenue Refunding Bonds, 2009 Series C	91,165,000	91,165,000
Water Revenue Bonds, 2008 Authorization, Series B	21,615,000	19,465,000
Water Revenue Bonds, 2008 Authorization, Series C[(2)]	78,385,000	78,385,000
Water Revenue Bonds, 2008 Authorization, Series D[(2)]	250,000,000	250,000,000
Water Revenue Refunding Bonds, 2009 Series D	81,065,000	75,825,000
Water Revenue Refunding Bonds, 2009 Series E	26,050,000	23,585,000
Water Revenue Refunding Bonds, Special Variable Rate, 2010 Series A[(1)*]	128,005,000	99,920,000
Water Revenue Refunding Bonds, 2010 Series B	88,845,000	88,845,000

(Continued on next page)

Name of Issue	Original Amount Issued	Principal Outstanding
(Continued from previous page)		
Water Revenue Bonds, 2010 Authorization, Series A[2]	$ 250,000,000	$ 250,000,000
Water Revenue Refunding Bonds, 2011 Series A1-A4[1]	228,875,000	228,875,000
Water Revenue Refunding Bonds, 2011 Series B	167,885,000	137,015,000
Water Revenue Refunding Bonds, 2011 Series C	157,100,000	157,100,000
Water Revenue Refunding Bonds, 2012 Series A	181,180,000	181,180,000
Water Revenue Refunding Bonds, 2012 Series B-1 and B-2[1]	98,585,000	98,585,000
Water Revenue Refunding Bonds, 2012 Series C	190,600,000	190,600,000
Water Revenue Refunding Bonds, 2012 Series D	39,520,000	38,580,000
Water Revenue Refunding Bonds, 2012 Series E1-E3	89,460,000	89,460,000
Water Revenue Refunding Bonds, 2012 Series F	60,035,000	60,035,000
Water Revenue Refunding Bonds, 2012 Series G	111,890,000	111,890,000
Total	$10,617,829,889	$4,452,005,000

Source: Metropolitan.

(1) Outstanding variable rate obligation.
(2) Designated as "Build America Bonds" pursuant to the American Recovery and Reinvestment Act of 2009.
* Metropolitan may issue its Water Revenue Refunding Bonds, 2013 Series A, B and C to refund all or a portion of these bonds.
** Metropolitan issued its $87,445,000 Special Variable Rate Water Revenue Refunding Bonds, 2013 Series D on June 3, 2013 to refund all of the Water Revenue Bonds, 2000 Authorization Series B-2.
*** Metropolitan expects to issue its Special Variable Rate Water Revenue Refunding Bonds, 2013 Series E to refund all of the Water Revenue Refunding Bonds, 2009 Series A-1.

Limitations on Additional Revenue Bonds

Resolution 8329, adopted by Metropolitan's Board on July 9, 1991, as amended and supplemented (collectively with all such supplemental resolutions, the "Revenue Bond Resolutions") provide for the issuance of Metropolitan's water revenue bonds. The Revenue Bond Resolutions establish limitations on the issuance of additional obligations payable from Net Operating Revenues. Under the Revenue Bond Resolutions, no additional bonds, notes or other evidences of indebtedness payable out of Operating Revenues may be issued having any priority in payment of principal, redemption premium, if any, or interest over any water revenue bonds authorized by the Revenue Bond Resolutions ("Parity Bonds") or other obligations of Metropolitan having a lien and charge upon, or being payable from, the Net Operating Revenues on parity with such water revenue bonds ("Parity Obligations"). No additional Parity Bonds or Parity Obligations may be issued or incurred unless the conditions of the Revenue Bond Resolutions have been satisfied.

The laws governing Metropolitan's ability to issue water revenue bonds currently provide two additional limitations on indebtedness that may be incurred by Metropolitan. The Act provides for a limit on general obligation bonds, water revenue bonds and other evidences of indebtedness at 15 percent of the assessed value of all taxable property within Metropolitan's service area. As of May 1, 2013, outstanding general obligation bonds, water revenue bonds and other evidences of indebtedness in the amount of $4.63 billion represented approximately 0.22 percent of the fiscal year 2012-13 taxable assessed valuation of $2,097.4 billion. The second limitation under the Act specifies that no revenue bonds may be issued, except for the purpose of refunding, unless the amount of net assets of Metropolitan as shown on its balance sheet as of the end of the last fiscal year prior to the issuance of such bonds, equals at least 100 percent of the aggregate amount of revenue bonds outstanding following the issuance of such bonds. The net assets of Metropolitan at June 30, 2012 were $6.44 billion. The aggregate amount of revenue bonds outstanding as of May 1, 2013 was $4.45 billion. The limitation does not apply to other forms of financing available to Metropolitan. Audited financial statements including the net assets of Metropolitan as of June 30, 2012 and June 30, 2011, respectively, are shown in Appendix B – "THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA INDEPENDENT AUDITOR'S REPORT AND FINANCIAL STATEMENTS AS OF FISCAL YEARS ENDED JUNE 30, 2012 AND JUNE 30, 2011 AND STATEMENTS OF NET

POSITION AND STATEMENTS OF REVENUES, EXPENSES AND CHANGES IN NET POSITION AS OF AND FOR THE NINE MONTHS ENDED MARCH 31, 2013 AND 2012 (UNAUDITED)."

Metropolitan provides no assurance that the Act's limitations on indebtedness will not be revised or removed by future legislation. Limitations under the Revenue Bond Resolutions respecting the issuance of additional obligations payable from Net Operating Revenues on a parity with water revenue bonds of Metropolitan will remain in effect so long as any water revenue bonds authorized pursuant to the Revenue Bond Resolutions are outstanding, provided however, that the Revenue Bond Resolutions are subject to amendment and supplement in accordance with their terms.

Variable Rate and Swap Obligations

As of May 1, 2013, Metropolitan had outstanding $1.18 billion of variable rate obligations, including bonds bearing interest in the Index Mode (the "Index Tender Bonds") and special variable rate bonds initially designated as self-liquidity bonds (the "Self-Liquidity Bonds"). As of May 1, 2013, the Index Tender Bonds outstanding are summarized in the following table:

Series	Date of Issuance	Original Principal Amount Issued	Next Scheduled Mandatory Tender Date	Maturity Date
2009 A-1*	May 20, 2009	$104,185,000	August 30, 2013	July 1, 2030
2009 A-2	May 20, 2009	104,180,000	March 24, 2014	July 1, 2030
2011 A-1	June 2, 2011	64,440,000	February 11, 2014	July 1, 2036
2011 A-2	June 2, 2011	50,000,000	May 1, 2015	July 1, 2036
2011 A-3	June 2, 2011	64,435,000	February 11, 2014	July 1, 2036
2011 A-4	June 2, 2011	50,000,000	May 1, 2015	July 1, 2036
2012 B-1	April 27, 2012	49,295,000	May 1, 2015	July 1, 2027
2012 B-2	April 27, 2012	49,290,000	May 1, 2015	July 1, 2027
		$535,825,000		

* Metropolitan expects to issue its Special Variable Rate Water Revenue Refunding Bonds, 2013 Series E to refund all of the Water Revenue Refunding Bonds, 2009 Series A-1.

The Index Tender Bonds have substantially similar terms and conditions; however, the unscheduled mandatory tender dates and related tender periods for the Index Tender Bonds may differ. The Index Tender Bonds bear interest at a rate that fluctuates weekly based on the SIFMA Municipal Swap Index published weekly by Municipal Market Data. The Index Tender Bonds are subject to mandatory tender under certain circumstances. Metropolitan anticipates that it will pay the purchase price of tendered Index Tender Bonds from the proceeds of remarketing such Index Tender Bonds or from other available funds. Metropolitan's obligation to pay the purchase price of such Index Tender Bonds is an unsecured obligation of Metropolitan that it would pay from Net Operating Revenues only after it has made payments and deposits with respect to its Operating Revenues, the Parity Bonds, Parity Obligations and other obligations secured by Net Operating Revenues. Metropolitan has not secured any liquidity facility or letter of credit to support the payment of the purchase price of Index Tender Bonds in connection with a scheduled mandatory tender. If the purchase price of the Index Tender Bonds of any Series is not paid from the proceeds of remarketing or other funds following a scheduled mandatory tender, such Index Tender Bonds then will bear interest at a default rate of up to 12% per annum until purchased by Metropolitan or redeemed. If the purchase price of the Index Tender Bonds of any series is not paid on a scheduled mandatory tender date, such Index Tender Bonds will also be subject to special mandatory redemption, in part, 18, 36 and 54 months following the purchase default. Any such special mandatory redemption payment will constitute a Bond Obligation payable on a parity with the Parity Bonds and the Parity Obligations.

Metropolitan's $99.9 million of Self-Liquidity Bonds as of May 1, 2013, are variable rate demand bonds that bear interest at a weekly rate determined by the remarketing agent for the Self-Liquidity Bonds. Metropolitan issued its $87,445,000 of Special Variable Rate Water Revenue Refunding Bonds, 2013 Series D, on June 3, 2013, and will initially designate such bonds as Self-Liquidity Bonds. The Self-Liquidity Bonds are subject to optional tender upon seven days' notice by the owners thereof and mandatory tender upon specified events. Metropolitan is irrevocably committed to purchase all Self-Liquidity Bonds tendered pursuant to any optional or mandatory tender to the extent that remarketing proceeds are insufficient therefor and no standby bond purchase agreement or other liquidity facility is in effect. Metropolitan's obligation to pay the purchase price of any tendered Self-Liquidity Bonds is an unsecured, special limited obligation of Metropolitan payable from Net Operating Revenues. In addition, Metropolitan's investment policy permits it to purchase tendered Self-Liquidity Bonds as an investment for its investment portfolio (other than amounts in its investment portfolio consisting of bond reserve funds). Thus, while Metropolitan is only obligated to purchase tendered Self-Liquidity Bonds from Net Operating Revenues, it may use the cash and investments in its investment portfolio (other than amounts in its investment portfolio consisting of bond reserve funds) to purchase tendered Self-Liquidity Bonds. Metropolitan has not secured any liquidity facility or letter of credit to pay the purchase price of any tendered Self-Liquidity Bonds; however, Metropolitan has entered into a Revolving Credit Agreement (as described below) pursuant to which it may make borrowings for the purpose of paying the purchase price of Self-Liquidity Bonds. See "—Revolving Credit Agreement" below.

The interest rates for Metropolitan's other variable rate demand obligations, totaling $548.3 million as of May 1, 2013, are reset on a daily or weekly basis. Such variable rate demand obligations are supported by Standby Bond Purchase Agreements between Metropolitan and various liquidity providers that provide for purchase of variable rate bonds by the applicable liquidity provider upon tender of such variable rate bonds and a failed remarketing. A decline in the creditworthiness of a liquidity provider will likely result in an increase in the interest rate of the applicable variable rate bonds, as well as an increase in the risk of a failed remarketing of such tendered variable rate bonds. Variable rate bonds purchased by a liquidity provider bear interest at a significantly higher interest rate and Metropolitan's obligation to reimburse the liquidity provider may convert the term of the variable rate bonds purchased by the liquidity provider into a term loan amortizable over a period of up to three years, depending on the applicable liquidity facility.

The following table sets forth a listing of the liquidity providers, the expiration date of each facility and the principal amount of outstanding bonds covered under each facility as of May 1, 2013.

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Liquidity Provider	Bond Issue	Principal Outstanding	Facility Expiration
Banco Bilbao Vizcaya Argenteria, S.A.	2000 Authorization Series B-2	$ 88,800,000	July 2013*
	Total	$88,800,000	
Barclays Bank PLC	2008 Series A-2	$150,385,000	September 2013**
	Total	$150,385,000	
Wells Fargo Bank, N.A.	2000 Authorization Series B-3	$ 88,800,000	February 2014
	2000 Authorization Series B-4	88,800,000	February 2014
	Total	$177,600,000	
Bank of America, N.A.	2008 Series A-1	$36,995,000	September 2014**
	Total	$36,995,000	
U.S. Bank, N.A.	2004 Series A-1	$ 47,265,000	February 2016**
	2004 Series A-2	47,265,000	February 2016**
	Total	$94,530,000	
Total		$548,310,000	

Source: Metropolitan.

* Metropolitan issued its $87,445,000 of Special Variable Rate Water Revenue Refunding Bonds, 2013 Series D on June 3, 2013 to refund all of the Water Revenue Bonds, 2000 Authorization Series B-2.

** Metropolitan may issue its Water Revenue Refunding Bonds, 2013 Series A and C to refund all or a portion of these bonds.

Included in Metropolitan's $1.18 billion of variable rate obligations are $807.1 million of variable rate demand obligations which, by virtue of interest rate swap agreements, are treated by Metropolitan as fixed rate debt for the purpose of calculating debt service requirements, although the variable payments that Metropolitan receives from swap counterparties do not usually equal the payments that Metropolitan makes on associated variable rate debt. The remaining $377 million of variable rate obligations represent approximately 8.5 percent of total outstanding water revenue bonds, as of May 1, 2013.

Metropolitan's variable rate exposure policy requires that variable rate debt be managed to limit net interest cost increases within a fiscal year as a result of interest rate changes to no more than $5 million. In addition, the maximum amount of variable interest rate exposure (excluding variable rate bonds associated with interest rate swap agreements) is limited to 40 percent of total outstanding water revenue bond debt. Variable rate debt capacity will be reevaluated as interest rates change and managed within these parameters.

By resolution adopted on September 11, 2001, Metropolitan's Board authorized the execution of interest rate swap transactions and related agreements in accordance with a master swap policy, which was subsequently amended by resolutions adopted on July 14, 2009 and May 11, 2010. Metropolitan may execute interest rate swaps if the transaction can be expected to reduce exposure to changes in interest rates on a particular financial transaction or in the management of interest rate risk derived from Metropolitan's overall asset/liability balance, result in a lower net cost of borrowing or achieve a higher net rate of return on investments made in connection with or incidental to the issuance, incurring or carrying of Metropolitan's obligations or investments, or manage variable interest rate exposure consistent with prudent debt practices and Board-approved guidelines. The Chief Financial Officer reports to the Finance and Insurance Committee

of Metropolitan's Board each quarter on outstanding swap transactions, including notional amounts outstanding, counterparty exposures and termination values based on then-existing market conditions.

Metropolitan currently has two types of interest rate swaps. Under the first type, Metropolitan receives payments that are calculated by reference to a floating interest rate and makes payments that are calculated by reference to a fixed interest rate. These swaps are referred to in the table below as "Fixed Payor Swaps." Under the second type, referred to in the table below as "Basis Swaps," Metropolitan receives payments calculated by reference to a percentage of the taxable index, LIBOR. In return, Metropolitan makes payments that are calculated based on either SIFMA or the taxable short-term index, one-month LIBOR.

Net payments under the terms of the interest rate swap agreements are payable on a parity with the Parity Obligations. Termination payments under the 2002 A and 2002 B interest rate swap agreements would be payable on a parity with the Parity Obligations. All other termination payments related to interest rate swap agreements would be subordinate to the Parity Obligations.

The following swap transactions were outstanding as of May 1, 2013:

FIXED PAYOR SWAPS:

Designation	Notional Amount Outstanding	Swap Counterparty	Fixed Payor Rate	MWD Receives	Maturity Date
2002 A	88,694,700	Morgan Stanley Capital Services, Inc.	3.300	57.74% of one-month LIBOR	7/1/2025
2002 B	33,180,300	JPMorgan Chase Bank	3.300	57.74% of one-month LIBOR	7/1/2025
2003[(1)]	163,987,500	Deutsche Bank AG	3.257	61.20% of one-month LIBOR	7/1/2030
2003	163,987,500	JPMorgan Chase Bank	3.257	61.20% of one-month LIBOR	7/1/2030
2004 A*	94,530,000	Morgan Stanley Capital Services, Inc.	2.917	61.20% of one-month LIBOR	7/1/2023
2004 C*	57,312,750	Morgan Stanley Capital Services, Inc.	2.980	61.55% of one-month LIBOR	10/1/2029
2004 C*	46,892,250	Citigroup Financial Products, Inc.	2.980	61.55% of one-month LIBOR	10/1/2029
2005	58,547,500	JPMorgan Chase Bank	3.360	70% of 3-month LIBOR	7/1/2030
2005	58,547,500	Citigroup Financial Products, Inc.	3.360	70% of 3-month LIBOR	7/1/2030
2006[(1)]*	20,697,500	Deutsche Bank AG	3.210	63% of 3-month LIBOR	7/1/2021
2006*	20,697,500	JPMorgan Chase Bank	3.210	63% of 3-month LIBOR	7/1/2021
Total	$807,075,000				

Source: Metropolitan.

(1) The obligations under these interest rate swap agreements were assigned by UBS AG to Deutsche Bank AG, New York Branch, pursuant to novation transactions dated July 22, 2010.

* Metropolitan may issue its Water Revenue Refunding Bonds, 2013 Series A, B and C to fund the termination of all or a portion of these swaps.

BASIS SWAPS:

Swap	Notional Amount Outstanding	Swap Counterparty	Met Receives	Met Pays	Maturity Date
2004	$125,000,000	JPMorgan Chase Bank	70% of one-month LIBOR + 31.5 bp	SIFMA	7/1/2014
2004	125,000,000	JPMorgan Chase Bank	70% of one-month LIBOR + 31.5 bp	SIFMA	7/1/2014
Total	$250,000,000				

Source: Metropolitan.

These interest rate swap agreements entail risk to Metropolitan. The counterparty may fail or be unable to perform, interest rates may vary from assumptions, Metropolitan may be required to post collateral in favor of its counterparties and Metropolitan may be required to make significant payments in the event of an early termination of an interest rate swap. Metropolitan believes that if such an event were to occur, it would not have a material adverse impact on its financial position. Metropolitan seeks to manage counterparty risk by diversifying its swap counterparties, limiting exposure to any one counterparty, requiring collateralization or other credit enhancement to secure swap payment obligations, and by requiring minimum credit rating levels. Initially swap counterparties must be rated at least "Aa3" or "AA-", or equivalent by any two of the nationally recognized credit rating agencies; or use a "AAA" subsidiary as rated by at least one nationally recognized credit rating agency. Should the credit rating of an existing swap counterparty drop below the required levels, Metropolitan may enter into additional swaps if those swaps are "offsetting" and risk-reducing swaps. Each counterparty is initially required to have minimum capitalization of at least $150 million. See Note 5(f) in Appendix B - "THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA INDEPENDENT AUDITOR'S REPORT AND FINANCIAL STATEMENTS AS OF FISCAL YEARS ENDED JUNE 30, 2012 AND JUNE 30, 2011 AND STATEMENTS OF NET POSITION AND STATEMENTS OF REVENUES, EXPENSES AND CHANGES IN NET POSITION AS OF AND FOR THE NINE MONTHS ENDED MARCH 31, 2013 AND 2012 (UNAUDITED)."

Early termination of an interest rate swap agreement could occur due to a default by either party or the occurrence of a termination event. As of March 31, 2013, Metropolitan would have been required to pay to its counterparties termination payments if some of its swaps were terminated on that date and would have been entitled to receive from its counterparties termination payments if other swaps were terminated on that date. Metropolitan estimated its net exposure to its counterparties for all such termination payments at March 31, 2013, to be approximately $148 million. Metropolitan does not presently anticipate early termination of any of its interest rate swap agreements due to default by either party or the occurrence of a termination event. However, effective June 28, 2012, Metropolitan exercised optional early termination provisions to terminate all or a portion of certain interest rate swap agreements totaling a notional amount of $322 million. Metropolitan may issue its Water Revenue Refunding Bonds, 2013 Series A, B and C to fund the termination of a portion of certain interest rate swap agreements.

Metropolitan is required to post collateral in favor of a counterparty to the extent that Metropolitan's total exposure for termination payments to that counterparty exceeds the threshold specified in the applicable swap agreement. Conversely, the counterparties are required to release collateral to Metropolitan or post collateral for the benefit of Metropolitan as market conditions become favorable to Metropolitan. As of March 31, 2013, Metropolitan had a total of $16.9 million of collateral posted with a counterparty. The amount of required collateral varies from time to time due primarily to interest rate movements and can change significantly over a short period of time. See "METROPOLITAN REVENUES—Financial Reserve Policy" in this Appendix A. In the future, Metropolitan may be required to post additional collateral, or may be entitled to a reduction or return of the required collateral amount. Collateral deposited by Metropolitan is held by the counterparties; a bankruptcy of any counterparty holding collateral posted by Metropolitan could

adversely affect the return of the collateral to Metropolitan. Moreover, posting collateral limits Metropolitan's liquidity. If collateral requirements increase significantly, Metropolitan's liquidity may be materially adversely affected.

Build America Bonds

Metropolitan previously issued and designated three series of Bonds in the aggregate principal amount of $578,385,000 as "Build America Bonds" under the provisions of the American Recovery and Reinvestment Act of 2009 (the "Build America Bonds"). Except as they may be reduced by sequestration as described in the following paragraph, Metropolitan currently expects to receive cash subsidies from the United States Treasury equal to 35% of the interest payable on all such outstanding Build America Bonds (the "Interest Subsidy Payments"). The Interest Subsidy Payments in connection with the Build America Bonds do not constitute Operating Revenues under the Master Resolution. Such Interest Subsidy Payments will constitute Additional Revenues, which Metropolitan may take into consideration when establishing its rates and charges and will be available to Metropolitan to pay principal of and interest on Metropolitan's Bonds.

The Budget Control Act of 2011 (the "Budget Control Act") provided for increases in the federal debt limit and established procedures designed to reduce the federal budget deficit. The Budget Control Act provided that a failure to reduce the deficit would result in sequestration: automatic, generally across-the-board, spending reductions. These reductions began on March 1, 2013 pursuant to an executive order that reduced budgetary authority for expenditures subject to sequestration, including subsidies for Build America Bonds. Pursuant to this executive order, the approximately $6.64 million interest subsidy payment that Metropolitan expects to receive on or about July 1, 2013 in connection with its Build America Bonds will be reduced by 8.7%, which is equal to approximately $578,000. Interest subsidy payments that Metropolitan expects to receive in connection with its Build America Bonds after July 1, 2013 may also be reduced if Congress does not repeal the provisions of the Budget Control Act requiring sequestration. Metropolitan can offer no assurances as to future subsidy payments and expects that once it receives less than any full 35% subsidy payment, the United States Treasury will not thereafter reimburse Metropolitan for payments not made.

Other Revenue Obligations

As of May 1, 2013, Metropolitan had outstanding $89.5 million of Parity Bonds in three Series, the Series 2012 E-1 Bonds, the Series 2012 E-2 Bonds and the Series 2012 E-3 Bonds, currently bearing interest in a term mode (the "Term Mode Bonds"). The Term Mode Bonds initially bear interest at a fixed rate for a specified period of up to 52 months from their date of issuance, after which there shall be determined a new interest mode for each Series (which may be another term mode, a daily mode, a weekly mode, a short-term mode or an index mode) or the Term Mode Bonds may be converted to bear fixed interest rates through the maturity date thereof. The owners of the Term Mode Bonds of a Series must tender for purchase, and Metropolitan must purchase, all of the Term Mode Bonds of such Series on the specified scheduled mandatory tender date of each term period for such Series. The scheduled mandatory tender dates for the three Series of Term Mode Bonds presently outstanding are October 1, 2014, October 1, 2015 and October 1, 2016, respectively. Metropolitan will pay the principal of and interest on the Term Mode Bonds on parity with its other Parity Bonds. Metropolitan anticipates that it will pay the purchase price of tendered Term Mode Bonds from the proceeds of remarketing such Term Mode Bonds or from other available funds. Metropolitan's obligation to pay the purchase price of such Term Mode Bonds is an unsecured obligation of Metropolitan that it would pay from Net Operating Revenues only after it has made payments and deposits with respect to its Operating Revenues, the Bonds and Parity Obligations and other obligations secured by Net Operating Revenues. Metropolitan has not secured any liquidity facility or letter of credit to support the payment of the purchase price of Term Mode Bonds in connection with any scheduled mandatory tender. If the purchase price of the Term Mode Bonds of any Series is not paid from the proceeds of remarketing or other funds following a scheduled mandatory tender, such Term Mode Bonds will then bear interest at a default rate of up to 12% per annum until purchased by Metropolitan or redeemed. If the purchase price of the Term Mode Bonds of any Series is not paid on a scheduled mandatory tender date, such Term Mode

Bonds will also be subject to special mandatory redemption, in part, 18, 36 and 54 months following the purchase default. Any such special mandatory redemption payment will constitute a Bond Obligation payable on a parity with the Parity Bonds and the Parity Obligations.

Revolving Credit Agreement

On March 21, 2013, Metropolitan entered into a revolving credit agreement ("Revolving Credit Agreement") with The Bank of New York Mellon ("BNY Mellon"). Under the terms and conditions of the Revolving Credit Agreement, Metropolitan may borrow up to $96,545,900 for purposes of paying the purchase price of any Self-Liquidity Bonds. Under the Revolving Credit Agreement, a failure by Metropolitan to perform or observe certain covenants could result in a termination of BNY Mellon's commitment and entitle BNY Mellon to declare all amounts then outstanding to be immediately due and payable. Metropolitan has secured its obligation to pay principal and interest under the Revolving Credit Agreement as a Parity Obligation under the Master Resolution. The scheduled expiration date of the Revolving Credit Agreement is March 31, 2016. Metropolitan has no obligation to make borrowings under the Revolving Credit Agreement, maintain the Revolving Credit Agreement or renew the Revolving Credit Agreement. See "—Limitations on Additional Revenue Bonds" above.

When Metropolitan entered into the Revolving Credit Agreement, it designated the principal and interest payable under the Revolving Credit Agreement as Excluded Principal Payments under the Master Resolution and thus, for purposes of calculating Maximum Annual Debt Service, included the amount of principal and interest due and payable under the Revolving Credit Agreement on a schedule of Assumed Debt Service. This schedule of Assumed Debt Service assumes that Metropolitan will pay the principal under the Revolving Credit Agreement over a period of 30 years at a fixed interest rate of 3.75%. Pursuant to the terms of the Master Resolution, while the Revolving Credit Agreement is in force and effect, when Metropolitan calculates its covenant relating to the creation or incurrence of additional indebtedness, it will add an amount to its Net Operating Revenues relating to an assumed annual debt service payment that Metropolitan would receive if it were to use the proceeds of the Revolving Credit Agreement to purchase Self-Liquidity Bonds.

Subordinate Revenue Obligations

Metropolitan currently is authorized to issue subordinate debt of up to $400,000,000 of Commercial Paper Notes payable from Net Operating Revenues on a basis subordinate to the Parity Bonds and the Parity Obligations. Although no Commercial Paper Notes are currently outstanding, the authorization remains in full force and effect and Metropolitan may issue Commercial Paper Notes from time to time. In addition, Metropolitan obtained a $20 million California Safe Drinking Water Revolving Fund Loan in 2003 at an interest rate of 2.39 percent per annum to reimburse construction costs for oxidation retrofit facilities at the Henry J. Mills Treatment Plant in Riverside County. The loan payment obligation is subordinate to the Parity Bonds and Parity Obligations. As of May 1, 2013, the principal balance outstanding was $12.6 million.

General Obligation Bonds

As of May 1, 2013, $165,085,000 aggregate principal amount of general obligation bonds payable from ad valorem property taxes were outstanding. *Ad valorem* taxes levied by Metropolitan must be applied solely to the payment of general obligation bonds and other voter-approved indebtedness. Metropolitan's revenue bonds are not payable from the levy of *ad valorem* property taxes.

General Obligation Bonds	Amount Issued[1]	Principal Outstanding
Waterworks General Obligation Refunding Bonds, 2004 Series A	$ 68,345,000	$ 27,335,000
Waterworks General Obligation Refunding Bonds, 2005 Series A	64,705,000	63,640,000
Waterworks General Obligation Refunding Bonds, 2009 Series A	45,515,000	38,675,000
Waterworks General Obligation Refunding Bonds, 2010 Series A	39,485,000	35,435,000
Total	$218,050,000	$165,085,000

Source: Metropolitan.

(1) Voters authorized Metropolitan to issue $850,000,000 of Waterworks General Obligation Bonds, Election 1966, in multiple series, in a special election held on June 7, 1966. This authorization has been fully utilized. This table lists bonds that refunded such Waterworks General Obligation Bonds, Election 1966.

State Water Contract Obligations

General. On November 4, 1960, Metropolitan entered into its State Water Contract with DWR, under which Metropolitan receives an entitlement to water service from the State Water Project. Subsequently, other public agencies also entered into water supply contracts with DWR, all of which were patterned after Metropolitan's State Water Contract. Metropolitan's State Water Contract accounts for nearly one-half of the total entitlement for State Water Project water contracted for by all contractors.

The State Water Contract will remain in effect until 2035 or until all DWR bonds issued to finance construction of project facilities are repaid, whichever is longer. At the expiration of the State Water Contract, Metropolitan has the option to continue service under substantially the same terms and conditions. Metropolitan presently intends to exercise this option to continue service to at least 2052. As of May 1, 2013, the latest maturity of outstanding DWR bonds issued for such purpose was December 1, 2035.

Under the State Water Contract, Metropolitan is obligated to pay allocable portions of the cost of construction of the system and ongoing operating and maintenance costs through at least 2035, regardless of quantities of water available from the project. Other payments are based on deliveries requested and actual deliveries received, costs of power required for actual deliveries of water, and offsets for credits received. Metropolitan's payment obligation for the State Water Project for the fiscal year ended June 30, 2012 was $479.8 million, which amount reflects prior year's credits of $59.0 million. For the fiscal year ended June 30, 2012, Metropolitan's payment obligations under the State Water Contract were approximately 40 percent of Metropolitan's total annual expenditures. A portion of Metropolitan's annual property tax levy is for payment of State Water Contract capital charges, as described above under "METROPOLITAN REVENUES—General" in this Appendix A. See Note 9(a) to Metropolitan's audited financial statements in Appendix B for an estimate of Metropolitan's payment obligations under the State Water Contract. Also see "POWER SOURCES AND COSTS" in this Appendix A for a description of current and future costs for electric power required to operate State Water Project pumping systems and a description of litigation involving the federal relicensing of the Hyatt-Thermalito hydroelectric generating facilities at Lake Oroville.

The State Water Contract requires that in the event that Metropolitan fails or is unable to raise sufficient funds by other means, Metropolitan must levy upon all property within its boundaries not exempt from taxation a tax or assessment sufficient to provide for all payments under the State Water Contract. Currently a portion of the capital costs under the State Water Contract are paid from ad valorem taxes levied by Metropolitan. In the opinion of Metropolitan's General Counsel, a tax increase to provide for additional payments under the State Water Contract would be within the exemption permitted under Article XIIIA of the State Constitution as a tax to pay pre-1978 voter approved indebtedness.

Metropolitan capitalizes its share of system construction costs as participation rights in State Water Project facilities as such costs are billed by DWR. Unamortized participation rights essentially represent a

prepayment for future water deliveries through the State Water Project system. Metropolitan's share of system operating and maintenance costs are annually expensed.

Metropolitan has entered into amendments to the State Water Contract that represent additional long-term obligations, as described below.

Devil Canyon-Castaic Contract. On June 23, 1972, Metropolitan and five other southern California public agencies entered into a contract (the "Devil Canyon-Castaic Contract") with DWR for the financing and construction of the Devil Canyon and Castaic power recovery facilities, located on the aqueduct system of the State Water Project. Under this contract, DWR agreed to build the Devil Canyon and Castaic facilities, using the proceeds of revenue bonds issued by DWR under the State Central Valley Project Act. DWR also agreed to use and apply the power made available by the construction and operation of such facilities to deliver water to Metropolitan and the other contracting agencies. Metropolitan, in turn, agreed to pay to DWR 88.1 percent of the debt service on the revenue bonds issued by DWR. For calendar year 2012, this represented a payment of $6.7 million. In addition, Metropolitan agreed to pay 78.5 percent of the operation and maintenance expenses of the Devil Canyon facilities and 96 percent of the operation and maintenance expenses of the Castaic facilities. Metropolitan's obligations under the Devil Canyon-Castaic Contract continue until the bonds are fully retired in 2022 even if DWR is unable to operate the facilities or deliver power from these facilities.

Off-Aqueduct Power Facilities. In addition to system "on-aqueduct" power facilities costs, DWR has, either on its own or by joint venture, financed certain off-aqueduct power facilities. The power generated is utilized by the system for water transportation and other State Water Project purposes. Power generated in excess of system needs is marketed to various utilities and the California power exchange market. Metropolitan is entitled to a proportionate share of the revenues resulting from sales of excess power. By virtue of a 1982 amendment to the State Water Contract and the other water supply contracts, Metropolitan and the other water contractors are responsible for paying the capital and operating costs of the off-aqueduct power facilities regardless of the amount of power generated. Other costs of Metropolitan in relation to the State Water Project and the State Water Contract may increase as a result of restructuring of California's electric utility industry and new Federal Energy Regulatory Commission ("FERC") regulations.

East Branch Enlargement Amendment. In 1986, Metropolitan's State Water Contract and the water supply contracts of certain other State Water Project contractors were amended for the purpose, among others, of financing the enlargement of the East Branch of the California Aqueduct. Under the amendment, enlargement of the East Branch can be initiated either at Metropolitan's request or by DWR finding that enlargement is needed to meet demands. Metropolitan, the other State Water Contractors on the East Branch, and DWR are currently in discussions on the timetable and plan for future East Branch enlargement actions.

The amendment establishes a separate subcategory of the Transportation Charge under the State Water Contract for the East Branch Enlargement and provides for the payment of costs associated with financing and operating the East Branch Enlargement. Under the amendment, the annual financing costs for such facilities financed by bonds issued by DWR are allocated among the participating contractors based upon the delivery capacity increase allocable to each participating contractor. Such costs include, but are not limited to, debt service, including coverage requirements, deposits to reserves, and certain operation and maintenance expenses, less any credits, interest earnings or other moneys received by DWR in connection with this facility.

If any participating contractor defaults on payment of its allocable charges under the amendment, among other things, the non-defaulting participating contractors may assume responsibility for such charges and receive delivery capability that would otherwise be available to the defaulting participating contractor in proportion to the non-defaulting contractor's participation in the East Branch Enlargement. If participating contractors fail to cure the default, Metropolitan will, in exchange for the delivery capability that would

otherwise be available to the defaulting participating contractor, assume responsibility for the capital charges of the defaulting participating contractor.

Water System Revenue Bond Amendment. In 1987, the State Water Contract and other water supply contracts were amended for the purpose of financing State Water Project facilities through revenue bonds. This amendment establishes a separate subcategory of the Delta Water Charge and the Transportation Charge for projects financed with DWR water system revenue bonds. This subcategory of charge provides the revenues required to pay the annual financing costs of the bonds and consists of two elements. The first element is an annual charge for repayment of capital costs of certain revenue bond financed water system facilities under the existing water supply contract procedures. The second element is a water system revenue bond surcharge to pay the difference between the total annual charges under the first element and the annual financing costs, including coverage and reserves, of DWR's water system revenue bonds.

If any contractor defaults on payment of its allocable charges under this amendment, DWR is required to allocate a portion of the default to each of the nondefaulting contractors, subject to certain limitations, including a provision that no nondefaulting contractor may be charged more than 125 percent of the amount of its annual payment in the absence of any such default. Under certain circumstances, the nondefaulting contractors would be entitled to receive an allocation of the water supply of the defaulting contractor.

The following table sets forth Metropolitan's projected costs of State Water Project water, based upon DWR's Annual Billing to Metropolitan for calendar year 2012 and projections based on Metropolitan's adopted biennial budget for fiscal years 2012-13 and 2013-14. Projections for fiscal year 2012-13 include actual results for July 2012 through May 2013 with revised projections for the balance of the fiscal year. The projections include projected costs to complete the planning phase of the BDCP. If a Bay-Delta improvement alternative is identified and funding is approved, construction may commence in 2016. See "METROPOLITAN'S WATER SUPPLY—State Water Project—*Bay-Delta Regulatory and Planning Activities*" in this Appendix A.

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PROJECTED COSTS OF METROPOLITAN FOR STATE WATER PROJECT WATER[1]
(Dollars in Millions)

Year Ending June 30	Capital Costs	Minimum OMP&R[2]	Power Costs[3]	Refunds & Credits	Total[4]
2013	$144.4	$174.3	$250.6	$(73.7)	$495.6
2014	185.3	184.6	238.1	(44.1)	563.8
2015	202.8	186.1	242.6	(35.3)	596.1
2016	216.5	189.6	234.9	(35.3)	605.5
2017	222.3	191.1	247.3	(35.3)	625.3

Source: Metropolitan.

(1) Projections are based upon DWR's Annual Billing to Metropolitan for 2012 and attachments (dated July 1, 2011) and Metropolitan's adopted biennial budget for fiscal years 2012-13 and 2013-14. Projections for fiscal year 2012-13 include actual results for July 2012 through May 2013 with revised projections for the balance of the fiscal year. All costs are adjusted from calendar year to fiscal year periods ending June 30. The total charges shown above differ from those shown in Note 9 of Metropolitan's audited financial statements (for the fiscal years ended June 30, 2012 and June 30, 2011) in Appendix B due to the inclusion above of allowances for inflation and anticipated construction of additional State Water Project facilities. The projections above also include State Water Project refunds and credits. See "POWER SOURCES AND COSTS—State Water Project" in this Appendix A.

(2) Minimum Operations, Maintenance, Power and Replacement ("OMP&R") represents costs which are fixed and do not vary with the amount of water delivered.

(3) Assumptions for water deliveries through the California Aqueduct (not including SBVMWD and Desert Water/CVWD transfers and exchanges) into Metropolitan's service area and to storage programs are as follows: 1.17 million acre-feet for fiscal year 2012-13, 1.03 million acre-feet for fiscal year 2013-14, 1.03 million acre-feet for fiscal year 2014-15, 0.96 million acre-feet for fiscal year 2015-16 and 0.96 million acre-feet for fiscal year 2016-17. Availability of State Water Project supplies vary and deliveries may include transfers and storage. All deliveries are within maximum contract amount and are based upon availability, as determined by hydrology, water quality and wildlife conditions. See "METROPOLITAN'S WATER SUPPLY—State Water Project—*Endangered Species Act Considerations*" in this Appendix A.

(4) Annual totals include BDCP related costs for the fiscal years ended June 30, 2013 through June 30, 2017 of $14.7 million, $5.5 million, $7.0 million, $8.2 million and $15.6 million, respectively. BDCP related costs are included in Capital Costs and Minimum OMP&R costs.

Other Long-Term Commitments

Metropolitan also has various ongoing fixed annual obligations under its contract with the United States Department of Energy for power from the Hoover Power Plant. Under the terms of the Hoover Power Plant contract, Metropolitan purchases energy to pump water through the Colorado River Aqueduct. In fiscal year 2011-12 Metropolitan paid approximately $19.9 million under this contract. Payments made under the Hoover Power Plant contract are treated as Operation and Maintenance Expenditures. See "POWER SOURCES AND COSTS—Colorado River Aqueduct" in this Appendix A.

Defined Benefit Pension Plan

Metropolitan is a member of the California Public Employees' Retirement System ("PERS"), a multiple-employer pension system that provides a contributory defined-benefit pension for substantially all Metropolitan employees. PERS provides retirement and disability benefits, annual cost-of-living adjustments and death benefits to plan members and beneficiaries. PERS acts as a common investment and administrative agent for participating public entities within the State. PERS is a contributory plan deriving funds from employee contributions as well as from employer contributions and earnings from investments. A menu of benefit provisions is established by State statutes within the Public Employees' Retirement Law. Metropolitan selects optional benefit provisions from the benefit menu by contract with PERS.

Metropolitan makes biweekly contributions to PERS based on actuarially determined employer contribution rates. The actuarial methods and assumptions used are those adopted by the PERS Board of Administration. Employees are required to contribute seven percent of their earnings (excluding overtime pay) to PERS. Pursuant to current memoranda of understanding, Metropolitan contributes the requisite seven percent contribution for all employees represented by the Management and Professional Employees Association, the Association of Confidential Employees, Supervisors and Professional Personnel Association and AFSCME Local 1902 and who were hired prior to January 1, 2012. Employees in all four bargaining units who were hired on or after January 1, 2012, pay the full 7 percent employee contribution to PERS. Metropolitan contributes the entire seven percent on behalf of unrepresented employees. In addition, Metropolitan is required to contribute the actuarially determined remaining amounts necessary to fund the benefits for its members.

The contribution requirements of the plan members are established by State statute and the employer contribution rate is established and may be amended by PERS. For fiscal year 2011-12, Metropolitan contributed 14.48 percent of annual covered payroll. In addition, from July 1, 2001 through January 1, 2012, Metropolitan paid the 7 percent employees' share of the PERS contribution for all employees. The fiscal year 2011-12 annual pension cost was $40.3 million, of which $13.2 million was for Metropolitan's pick-up of the employees' 7 percent share. For fiscal years 2012-13 and 2013-14, Metropolitan is required to contribute 15.0 percent and 16.31 percent, respectively, of annual covered payroll, in addition to member contributions paid by Metropolitan. The fiscal year 2011-12 contribution requirement was based on the June 30, 2009 valuation report, the fiscal year 2012-13 contribution requirement is based on the June 30, 2010 valuation report and the 2013-14 contribution requirement is based on the June 30, 2011 valuation report. The June 30, 2011 actuarial valuation report includes a projected employer contribution rate for fiscal year 2014-15 of 17.8 percent of annual covered payroll, based on PERS' projected investment return for fiscal year 2011-12 of 0 percent, and a projected employer contribution rate for fiscal year 2015-16 of 18.3 percent of annual covered payroll, based on PERS' projected investment return for fiscal year 2012-13 of 7.5 percent.

On April 17, 2013, the PERS Board of Administration approved changes to the amortization and smoothing policies to spread all gains and losses over a fixed 30-year period from a rolling 30-year period, and to recognize increases or decreases in investment returns over a 5-year period versus a 15-year period. These changes will result in higher employer contribution rates in the near term but lower rates in the long term. The new policies will be effective for fiscal year 2015-16 and could increase the fiscal year 2015-16 rate by 2.0 percent. The new valuations will be performed in the fall of 2014. The following table shows the funding progress of Metropolitan's pension plan.

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Metropolitan Pension Plan Assets (dollars in billions)							
				Funded (Unfunded)		Funded Ratios	
Valuation Date	Accrued Liability	Actuarial Value of Assets	Market Value of Assets	Actuarial Value	Market Value	Actuarial Value	Market Value
6/30/11	$1.674	$1.416	$1.257	($0.259)	($0.417)	84.5%	75.1%
6/30/10	$1.563	$1.351	$1.059	($0.212)	($0.504)	86.4%	67.7%
6/30/09	$1.478	$1.287	$0.940	($0.191)	($0.538)	87.1%	63.6%
6/30/08	$1.334	$1.232	$1.256	($0.102)	($0.078)	92.3%	94.1%
6/30/07	$1.248	$1.153	$1.335	($0.095)	$0.087	92.4%	107.0%

As of June 30, 2002, the actuarial and market values of assets in Metropolitan's pension plan were approximately $896 million and $815 million, respectively, resulting in excess actuarial and market assets of $95 million and $13 million, respectively. The increase in unfunded liability since 2002 is due to the draw-down of excess assets relating to the employer pick-up of the employees' 7 percent share and prior asset losses in PERS investments, and the recognition of gains and losses on an actuarial basis over a "smoothing" period. The actuarial value of PERS assets since fiscal year 2003-04 is based on a policy to smooth the market value of investments over a fifteen-year period to reduce the volatility of employers' future contributions and stabilize pension costs. However, in June 2009, the PERS Board adopted temporary modifications to the asset smoothing method in order to phase in over a three year period the impact of the 24 percent investment loss experienced in fiscal year 2008-09. In its June 2010 and June 2011 valuation reports, PERS continued the effects of the temporary modification. The phase-in provides short-term relief to local government employers and is designed to strengthen the long-term financial health of the pension funds. Metropolitan anticipates that the June 2012 valuation report will be available in October 2013. As described above, in its June 2013 valuation report, PERS will change its amortization and smoothing methods in setting the fiscal year 2015-16 employer contribution rates. The changes will result in higher employer contribution rates in the near term but lower rates in the long term. For more information on the plan, see Appendix B - "THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA INDEPENDENT AUDITOR'S REPORT AND FINANCIAL STATEMENTS AS OF FISCAL YEARS ENDED JUNE 30, 2012 AND JUNE 30, 2011 AND STATEMENTS OF NET POSITION AND STATEMENTS OF REVENUES, EXPENSES AND CHANGES IN NET POSITION AS OF AND FOR THE NINE MONTHS ENDED MARCH 31, 2013 AND 2012 (UNAUDITED)."

Metropolitan currently provides post-employment medical insurance to retirees and pays the post-employment medical insurance premiums to PERS. On January 1, 2012, Metropolitan implemented a longer vesting schedule for retiree medical benefits, which applies to all new employees. Metropolitan funds such benefits on a pay-as-you-go basis. Payments for this benefit were $12.8 million in fiscal year 2011-12 and are estimated to be $14.8 million in fiscal year 2012-13. Under Governmental Accounting Standards Board Statement No. 45, Accounting and Financial Reporting by Employers for Postemployment Benefits Other Than Pensions, Metropolitan is required to account for and report the outstanding obligations and commitments related to such benefits, commonly referred to as other postemployment benefits ("OPEB"), on an accrual basis.

Metropolitan's annual required OPEB contribution was $49.2 million in fiscal year 2011-12. Pay-as-you-go contributions were $12.8 million in fiscal year 2011-12, which represent 26.0 percent of the annual required contribution. The required contribution was based on a January 1, 2011 actuarial valuation using the entry-age normal actuarial cost method with contributions determined as a level percent of pay. The actuarial assumptions included (a) a 4.5 percent investment rate of return, (b) a general inflation component of 3.0 percent and (c) increases to basic medical premiums of 9.0 percent for non-Medicare plans for 2013, grading down to 5.0 percent for 2021 and thereafter. As of January 1, 2011, the date of the actuarial report, the unfunded OPEB liability was estimated to be $545 million. The unfunded actuarial accrued liability is amortized over a fixed 30-year period starting with fiscal year 2007-08 and ending in 2037. Assumption changes are amortized over a fixed 20-year period. Actuarial gains and losses are amortized over a rolling 15-year period. Metropolitan intends to begin OPEB funding above annual pay-as-you-go amounts with $5.0 million in the fiscal year 2012-13 budget and intends to increase this amount by $5.0 million per fiscal year to an annual funding amount of $25.0 million beginning in fiscal year 2016-17.

HISTORICAL AND PROJECTED REVENUES AND EXPENDITURES

The table below, for fiscal years 2008-09 through 2011-12, provides a summary of revenues and expenditures of Metropolitan prepared on a cash basis, which conforms to the Revenue Bond Resolution provisions regarding rates and additional Bonds (as defined in the Master Resolution) and Parity Obligations (as defined in the Master Resolution). See "METROPOLITAN EXPENDITURES—Limitations on Additional Revenue Bonds" in this Appendix A. Under cash basis accounting, water sales revenues are recorded when received (two months after billed) and expenses when paid (approximately one month after invoiced). The financial projections for fiscal years 2012-13 through 2016-17, are prepared on a modified accrual basis. This is consistent with the adopted biennial budget for fiscal years 2012-13 and 2013-14, which was prepared on a modified accrual basis instead of a cash basis. The table does not reflect the accrual basis of accounting, which is used to prepare Metropolitan's annual audited financial statements. The modified accrual basis of accounting varies from the accrual basis of accounting in the following respects: depreciation and amortization will not be recorded and payments of debt service will be recorded when due and payable. Under the modified accrual basis of accounting, revenues are recognized in the fiscal year in which they are earned and expenses are recognized when incurred. Thus water sales revenues are recognized in the month the water is sold and expenses are recognized when goods have been received and services have been rendered. As a result of this change, projected revenues are $39 million greater in fiscal year 2012-13 and $17 million greater in fiscal year 2013-14 than under the previous cash basis of accounting. Projections of expenditures are not materially affected by this change. The change to modified accrual accounting is for budgeting purposes and Metropolitan will continue to calculate compliance with its rate covenant, limitations on additional bonds and other financial covenants in the Resolutions in accordance with their terms.

The projections are based on assumptions concerning future events and circumstances that may impact revenues and expenditures and represent management's best estimates of results at this time. See footnotes to the table below entitled "HISTORICAL AND PROJECTED REVENUES AND EXPENDITURES" and "MANAGEMENT'S DISCUSSION OF HISTORICAL AND PROJECTED REVENUES AND EXPENDITURES" for relevant assumptions, including projected water sales and average annual increase in the effective water rate, and "MANAGEMENT'S DISCUSSION OF HISTORICAL AND PROJECTED REVENUES AND EXPENDITURES" for a discussion of potential impacts. Some assumptions inevitably will not materialize and unanticipated events and circumstances may occur. Therefore, the actual results achieved during the projection period will vary from the projections and the variations may be material.

In addition to the Parity Bonds currently outstanding and the Bonds described in the Official Statement or Remarketing Statement to which this Appendix A is attached (such Official Statement or Remarketing Statement, as applicable, together with all appendices thereto and documents expressly incorporated by reference therein, the "Offering Statement"), Metropolitan anticipates issuing approximately $930 million aggregate principal amount of debt through fiscal year 2016-17 to finance the CIP. In

September 2004 Metropolitan adopted a goal to maintain a minimum fixed charge coverage ratio, measuring total coverage of all fixed obligations (which includes all revenue bond debt service obligations, State Water Contract capital payments paid from current year operations and subordinate obligations) after payment of operating expenditures, of 1.2 times. This goal is subject to change by future action of Metropolitan's Board.

Estimated revenues and expenditures in the table below are based on assumptions and estimates used in the adopted biennial budget for fiscal years 2012-13 and 2013-14, and reflect the projected issuance of additional bonds. Projections for fiscal year 2012-13 include actual financial results for July 2012-May 2013 with revised projections for the balance of the fiscal year and anticipate fiscal year 2012-13 available funds of $253 million, which are attributable to increased operating revenues, primarily increased water sales, and decreased operating expenditures as compared to budget. See "MANAGEMENT'S DISCUSSION OF HISTORICAL AND PROJECTED REVENUES AND EXPENDITURES—Water Sales Receipts" in this Appendix A.

The projections in the table below assume that water sales will be 1.86 million acre-feet in fiscal year 2012-13, 1.7 million acre-feet in fiscal year 2013-14 and 1.75 million acre-feet in fiscal years 2014-15, 2015-16 and 2016-17, respectively. Rates and charges increased by 5.0 percent on January 1, 2013 and will increase by 5.0 percent on January 1, 2014. Rates and charges are projected to increase 3.0 percent annually thereafter. Actual rates and charges to be effective in 2015 and thereafter are subject to adoption by Metropolitan's Board. The projections were prepared by Metropolitan and have not been reviewed by independent certified public accountants or any entity other than Metropolitan. Dollar amounts are rounded.

Metropolitan's resource planning projections are developed using a comprehensive analytical process that incorporates demographic growth projections from recognized regional planning entities, historical and projected data acquired through coordination with local agencies, and the use of generally accepted empirical and analytical methodologies. See "METROPOLITAN'S WATER SUPPLY—Integrated Water Resources Plan" and "—The Integrated Resources Plan Strategy" in this Appendix A. Metropolitan has conservatively set the water sales projections in the following table which are below its projections for resource planning purposes. Metropolitan estimates that its water sales projections have a seventy percent statistical likelihood of being exceeded, compared to the fifty percent exceedance levels in the projections of water sales used to set prior years' budgets and rates. Nevertheless, Metropolitan's assumptions have been questioned by directors representing SDCWA on Metropolitan's Board. Metropolitan has reviewed SDCWA's concerns and, while recognizing that assumptions may vary, believes that the estimates and assumptions that support Metropolitan's projections are reasonable based upon history, experience and other factors as described above.

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HISTORICAL AND PROJECTED REVENUES AND EXPENDITURES[a]
(Dollars in Millions)

	Actual				Projected				
	2009	2010	2011	2012	2013	2014	2015	2016	2017
Receipts from Water Sales[b]	$988	$1,011	$996	$1,062	$1,292	$1,241	$1,326	$1,370	$1,422
Additional Revenue Sources[c]	120	135	153	168	172	182	200	210	221
Total Operating Revenues	1,108	1,146	1,149	1,230	1,464	1,423	1,526	1,580	1,643
O&M, CRA Power and Water Transfer Costs[d]	(532)	(551)	(531)	(476)	(460)	(503)	(555)	(578)	(602)
Total SWC OMP&R and Power Costs[e]	(251)	(274)	(322)	(316)	(355)	(400)	(414)	(414)	(429)
Total Operation and Maintenance	(782)	(825)	(853)	(792)	(815)	(903)	(969)	(992)	(1,031)
Net Operating Revenues	$ 326	$ 321	$ 296	$ 438	$ 649	$520	$557	$ 588	$612
Miscellaneous Revenue[f]	20	33	74	56	23	19	19	19	19
Sales of Hydroelectric Power[g]	23	19	22	31	26	21	21	25	25
Interest on Investments[h]	32	19	17	11	9	13	15	16	17
Adjusted Net Operating Revenues[i]	401	392	409	536	707	573	612	648	673
Bonds and Additional Bonds Debt Service[j]	(223)	(244)	(277)	(297)	(298)	(308)	(316)	(325)	(336)
Subordinate Revenue Obligations[k]	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Funds Available from Operations	$ 177	$ 147	$ 131	$ 238	$ 408	$ 264	$ 295	$ 322	$336
Bonds and Additional Bonds Debt Service Coverage[l]	1.80	1.61	1.48	1.81	2.37	1.86	1.94	1.99	2.00
Debt Service Coverage on all Obligations[m]	1.79	1.60	1.47	1.80	2.36	1.85	1.93	1.99	2.00
Funds Available from Operations	$ 177	$ 147	$ 131	$ 238	$ 408	$ 264	$ 295	$ 322	$336
Other Receipts (Expenditures)	(8)	(5)	(2)	(3)	(4)	(11)	(8)	(9)	(9)
Pay-As-You Go Construction	(31)	(35)	(45)	(45)	(55)	(125)	(125)	(125)	(125)
Water Transfer Capital Costs	(8)	(12)	-0-	-0-	-0-	-0-	-0-	-0-	-0-
Total SWC Capital Costs Paid from Current Year Operations	(86)	(115)	(119)	(112)	(96)	(123)	(145)	(158)	(168)
Remaining Funds Available from Operations	44	(20)	(35)	77	253	5	17	30	34
Fixed Charge Coverage[n]	1.30	1.09	1.03	1.31	1.79	1.33	1.33	1.34	1.33
Tax Receipts	105	97	88	90	86	81	61	56	51
General Obligation Bonds Debt Service	(49)	(48)	(39)	(39)	(40)	(40)	(23)	(23)	(23)
SWC Capital Costs Paid from Taxes	(56)	(49)	(49)	(51)	(46)	(41)	(38)	(33)	(28)
Net Funds Available from Current Year	$ 44	$(20)	$(35)	$77	$253	$5	$ 17	$30	$34

Source: Metropolitan.

(a) Unaudited. Prepared on a cash basis for fiscal years ended June 30, 2009 through fiscal year ending June 30, 2012, and on a modified accrual basis for fiscal years ending June 30, 2013 through June 30, 2017. Projected revenues and expenditures are based on assumptions and estimates used in the adopted 2012-13 and 2013-14 biennial budget and reflect the projected issuance of additional bonds. Projected revenues and expenditures for fiscal year 2012-13 include actual financial results for July 2012-March 2013 with revised projections for the balance of the fiscal year.

(Footnotes continued on next page)

(b) During the four fiscal years ended June 30, 2009 through June 30, 2012, annual water sales (in acre-feet) were 2.17 million, 1.86 million, 1.63 million and 1.68 million (including 225,000 acre-feet of replenishment sales), respectively. See "METROPOLITAN REVENUES—Water Sales Revenues," table entitled "SUMMARY OF WATER SOLD AND WATER SALES RECEIPTS" in this Appendix A. The water receipts projections are based upon estimated annual water sales (in acre-feet) of 1.86 million in fiscal year 2012-13, 1.7 million in fiscal year 2013-14 and 1.75 million in fiscal years 2014-15, 2015-16 and 2016-17, respectively. Projections reflect Board adopted rate and charge increases of 5.0 percent, which became effective on January 1, 2013 and 5.0 percent, which will become effective on January 1, 2014. Rates and charges are projected to increase 3.0 percent per fiscal year thereafter, subject to adoption by Metropolitan's Board. See "MANAGEMENT'S DISCUSSION OF HISTORICAL AND PROJECTED REVENUES AND EXPENDITURES" below.

(c) Includes receipts from water standby, readiness-to-serve and capacity charges. The term Operating Revenues excludes ad valorem taxes. See "METROPOLITAN REVENUES — Additional Revenue Components" in this Appendix A.

(d) Water Transfer Costs are included in Operation and Maintenance Expenditures for purposes of calculating the debt service coverage on all Obligations.

(e) Includes on and off aqueduct power and operation, maintenance, power and replacement costs payable under the State Water Contract. See "METROPOLITAN EXPENDITURES—State Water Contract Obligations" in this Appendix A.

(f) Includes lease and rental net proceeds, net proceeds from sale of surplus property and federal interest subsidy payments for Build America Bonds of $6.6 million in fiscal year 2009-10, $3.6 million in fiscal year 2010-11, $6.6 million in fiscal year 2011-12 and $13 million in fiscal year 2012-13 through fiscal year 2016-17. Federal interest subsidy payments do not reflect reductions pursuant to federal budget sequestration for the federal Fiscal Year 2013. Includes in fiscal year 2010-11, $8 million from surplus property sales and a $28.2 million capital reimbursement received from the Calleguas Municipal Water District in fiscal year 2010-11 related to termination of the Las Posas water storage program. See "REGIONAL WATER RESOURCES—Local Water Supplies—*Groundwater Storage Programs*" in this Appendix A. Also includes in fiscal year 2011-12 $27.5 million from CVWD for delivery of 105,000 acre-feet under an exchange agreement between Metropolitan and CVWD. See "METROPOLITAN'S WATER SUPPLY—Colorado River Aqueduct—*Quantification Settlement Agreement*" in this Appendix A.

(g) Includes Colorado River Aqueduct power sales.

(h) Does not include interest applicable to Bond Construction Funds, the Excess Earnings Funds, other trust funds and the Deferred Compensation Trust Fund.

(i) Adjusted Net Operating Revenues is the sum of all available revenues that the revenue bond resolutions specify may be considered by Metropolitan in setting rates and issuing additional Bonds and Parity Obligations.

(j) Includes debt service on outstanding Bonds, the parity lien State Revolving Fund Loan which was repaid on July 1, 2011 and additional Bonds (projected). Assumes issuance of additional Bonds as provided in budget assumptions for the adopted biennial budget for fiscal years 2012-13 and 2013-14 as follows: $180 million in fiscal year 2012-13, $180 million in fiscal year 2013-14, $200 million in fiscal year 2014-15, $180 million in fiscal year 2015-16 and $190 million in fiscal year 2016-17. See "CAPITAL INVESTMENT PLAN—Capital Investment Plan Financing" in this Appendix A.

(k) Consisting of subordinate lien California Safe Drinking Water Revolving Fund Loan debt service. See "METROPOLITAN EXPENDITURES—Subordinate Revenue Obligations" in this Appendix A.

(l) Adjusted Net Operating Revenues divided by the sum of debt service on outstanding Bonds, the parity lien State Revolving Fund Loan which was repaid on July 1, 2011 and additional Bonds (projected).

(m) Adjusted Net Operating Revenues, divided by the sum of debt service on outstanding Bonds, the parity lien State Revolving Fund Loan which was repaid on July 1, 2011, the subordinate lien California Safe Drinking Water Revolving Fund Loan and additional Bonds (projected). See "METROPOLITAN EXPENDITURES—Subordinate Revenue Obligations" in this Appendix A.

(n) Adjusted Net Operating Revenues, divided by the sum of State Water Contract capital costs paid from current year operations and debt service on outstanding Bonds, the parity lien State Revolving Fund Loan which was repaid on July 1, 2011, the subordinate lien California Safe Drinking Water Revolving Fund Loan, and additional Bonds (projected).

MANAGEMENT'S DISCUSSION OF HISTORICAL AND PROJECTED REVENUES AND EXPENDITURES

Water Sales Receipts

Metropolitan relies on receipts from water sales for about 75 to 80 percent of its total revenues. Metropolitan's Board has adopted annual increases in water rates each year beginning with the rates effective January 1, 2004. See "METROPOLITAN REVENUES—Rate Structure" and "—Classes of Water Service" in this Appendix A. Effective January 1, 2009, base water rates and charges increased by 9.8 percent plus a $25 per acre-foot water supply surcharge. The combined impact was an increase of approximately 14.3 percent. Water rates and charges increased an average of 19.7 percent effective September 1, 2009, and the water supply surcharge was replaced by a $69 per acre-foot Delta Supply Surcharge intended to recover the costs of additional water transfer purchases to augment State Water Project supplies and to be reduced as interim Delta improvements ease pumping restrictions, resulting in lower costs for additional supplies. See "METROPOLITAN'S WATER SUPPLY—State Water Project" and "—Water Transfer, Storage and Exchange Programs" in this Appendix A. On April 14, 2009, Metropolitan's Board directed staff to evaluate historical cost-of-service methodology with the intent to ensure that all rates and charges recover the full cost of service effective January 1, 2011. On April 13, 2010, Metropolitan's Board adopted a Delta Supply Surcharge of $51 and $58 per acre-foot, effective January 1, 2011 and January 1, 2012, respectively, with corresponding base water rate increases of 7.5 percent each year. The Delta Supply Surcharge is zero for calendar years 2013 and 2014. On April 10, 2012, Metropolitan's Board adopted a 5.0 percent rate and

charge increase, which became effective January 1, 2013 and a 5.0 percent increase, which will become effective January 1, 2014. Increases in rates and charges reflect increasing operations and maintenance costs, including higher treatment costs, financing requirements of the approximately $1.45 billion five-year CIP (covering the years 2013 to 2017), increasing State Water Project costs, and reduced water sales. Metropolitan is projecting that it will meet its cost of service during fiscal year 2012-13, and will increase its unrestricted reserves during fiscal year 2012-13.

Water sales forecasts in the table above are: 1.86 million acre-feet in fiscal year 2012-13, 1.7 million acre-feet in fiscal year 2013-14 and 1.75 million acre-feet in fiscal years 2014-15 through 2016-17. For purposes of comparison, Metropolitan's highest water sales during the past five fiscal years was approximately 2.3 million acre-feet in fiscal year 2007-08. See "METROPOLITAN REVENUES—Water Sales Revenues" in this Appendix A.

These financial projections reflect the Board's actions to increase water rates and charges by 5.0 percent, effective January 1, 2013 and 5.0 percent, effective January 1, 2014. Rates are projected to increase 3.0 percent per year thereafter. Actual rates and charges to be effective in 2015 and thereafter are subject to adoption by Metropolitan's Board. Metropolitan is required to fix rates and charges estimated to provide operating revenues which, together with other available revenues, are sufficient to pay Metropolitan's operating expenses and provide for payment of the interest and principal of its bonds and other costs.

Metropolitan has funded a Water Treatment Surcharge Stabilization Fund and a Water Rate Stabilization Fund with a portion of the water revenues collected. The Board's stated policy is to use moneys in these funds to mitigate the need to increase water rates as a result of annual variability in water sales. Since fiscal year 2009-10, there has been no balance in the Water Treatment Surcharge Stabilization Fund. The balance in the Water Rate Stabilization Fund was $78.4 million in fiscal year 2009-10, $42.6 million in fiscal year 2010-11 and $127.4 million in fiscal year 2011-12. The fiscal year 2010-11 balance included $13 million held in reserves pursuant to the exchange contract between Metropolitan and SDCWA due to SDCWA's litigation challenging Metropolitan's rate structure. This reserve increased to $50 million at the end of fiscal year 2011-12. The amount of this reserve as of May 31, 2013 was $84.4 million. See "METROPOLITAN'S WATER SUPPLY—Colorado River Aqueduct—*Sale of Water by the Imperial Irrigation District to San Diego County Water Authority*" and "METROPOLITAN REVENUES—Litigation Challenging Rate Structure" in this Appendix A.

The Long-Range Finance Plan adopted by the Board on March 9, 1999 provides for a minimum/maximum reserve policy based on Metropolitan's water sales during wet periods. Funds representing the minimum reserve level are held in the Revenue Remainder Fund, and any funds in excess of the minimum reserve level (up to the maximum reserve level) are held in the Water Rate Stabilization Fund. The maximum reserve level on June 30, 2012 was calculated to be $458 million and the minimum reserve requirement as of June 30, 2012, was $190 million. The actual fund balances in the Water Rate Stabilization Fund, the Revenue Remainder Fund and the Water Stewardship Fund on June 30, 2012 totaled $332 million, including $50 million held pursuant to the SDCWA rate structure litigation, $14.1 million in the Water Stewardship Fund and $36.9 million held as collateral by Metropolitan's swap counterparties. See "METROPOLITAN REVENUES—Rate Structure" and "—Litigation Challenging Rate Structure" and "METROPOLITAN EXPENDITURES—Variable Rate and Swap Obligations" in this Appendix A. See "METROPOLITAN REVENUES—Financial Reserve Policy" and "CAPITAL INVESTMENT PLAN—Capital Investment Plan Financing" in this Appendix A.

Water Sales Projections

Metropolitan's water sales projections are the result of a comprehensive retail demand, conservation, and local supply estimation process, including supply projections from member agencies and other water providers within Metropolitan's service area. Retail demands for water are estimated with a model driven by projections of relevant demographics provided by SCAG and SANDAG. Retail demands are adjusted downward for conservation savings and local supplies, with the remainder being the estimated demand for

Metropolitan supplies. Conservation savings estimates include all conservation programs in place to date as well as estimates of future conservation program goals that will result from regional 20 percent reductions by 2020 conservation savings. See "METROPOLITAN'S WATER SUPPLY—Water Conservation" in this Appendix A. Local supplies include water produced by local agencies from various sources including but not limited to groundwater, surface water, locally-owned imported supplies, and recycled water (see "REGIONAL WATER RESOURCES"). See "HISTORICAL AND PROJECTED REVENUES AND EXPENDITURES" for additional description of Metropolitan's water sales projections.

The water sales projections are used to determine water rates and charges. In adopting the budget and rates and charges for each fiscal year, Metropolitan's board reviews the anticipated revenue requirements and projected water sales to determine the rates necessary to produce substantially the revenues to be derived from water sales during the fiscal year. Metropolitan sets rates and charges estimated to provide operating revenues sufficient, with other sources of funds, to provide for payment of its expenditures. See "—Water Sales Receipts" above and "HISTORICAL AND PROJECTED REVENUES AND EXPENDITURES" in this Appendix A.

Actual water sales are likely to vary from projections. Over the ten-year period from fiscal-year 2002-03 through 2011-12, actual water sales exceeded budgeted sales for the fiscal year in five fiscal years, with the greatest positive variance in fiscal year 2005-06 when actual sales of 2,152,818 acre-feet were 114 percent of budgeted sales (1,895,730 acre-feet). Actual sales were less than budgeted sales in five fiscal years, with the greatest negative variance in fiscal year 2010-11 when actual sales of 1,632,277 acre-feet were 85 percent of budgeted sales (1,927,875 acre-feet). Over the ten fiscal years from 2002-03 through 2011-12, average actual sales were 100 percent of average budgeted sales. In fiscal year 2011-12, actual sales were 1,676,855 acre-feet (including 225,000 acre-feet of replenishment sales), representing 93 percent of sales of 1,800,000 acre-feet in the revised budget. If actual sales exceed projections, the revenues from water sales during the fiscal year will exceed budget, resulting in an increase in financial reserves. See "METROPOLITAN REVENUES—Financial Reserve Policy" in this Appendix A. If actual sales are less than projections, Metropolitan uses various tools to manage reductions in revenues, such as reducing expenditures below budgeted levels and drawing on reserves. Metropolitan considers actual sales, revenues and expenditures, and financial reserve balances in setting rates for future fiscal years.

Operation and Maintenance Expenditures

Operation and maintenance expenditures in fiscal year 2011-12 were $792 million, which represented approximately 66 percent of total costs. These expenditures include the costs of labor, electrical power, materials and supplies of both Metropolitan and its contractual share of the State Water Project. The cost of power for pumping water through the aqueducts is a major component of this category of expenditures.

The 2012-13 projected operation and maintenance expenditures are $865 million. Metropolitan's Board adopted a budget benchmark in September 2004 to limit the annual increase in departmental operations and maintenance budgets to no more than the five-year rolling average change in the Los Angeles/Orange/Riverside Counties consumer price index. The projected fiscal year 2012-13 departmental expenditures of $357 million is approximately 2.9 percent and 5.3 percent higher than expenditures in fiscal years 2011-12 and 2010-11, respectively.

POWER SOURCES AND COSTS

General

Current and future costs for electric power required for operating the pumping systems of the Colorado River Aqueduct and the State Water Project are a substantial part of Metropolitan's overall expenses. Expenditures for electric power for the Colorado River Aqueduct (not including credits from power sales and related revenues) for the fiscal years 2009-10, 2010-11 and 2011-12 were approximately $42.4 million, $46.9 million and $30.0 million, respectively. Expenditures for electric power and

transmission service for the State Water Project for fiscal years 2009-10, 2010-11 and 2011-12 were approximately $156.1 million, $189.8 million and $214.1 million, respectively. Given the continuing uncertainty surrounding the electricity markets in California and in the electric industry in general, Metropolitan is unable to give any assurance with respect to the magnitude of future power costs.

Colorado River Aqueduct

Generally 55 to 70 percent of the annual power requirements for pumping at full capacity (1.25 million acre-feet of Colorado River water) in Metropolitan's Colorado River Aqueduct are secured through long-term contracts with the United States Department of Energy for energy generated from facilities located on the Colorado River (Hoover Power Plant and Parker Power Plant) and Edison. These contracts provide Metropolitan with reliable and economical power resources to pump Colorado River water to Metropolitan's service area.

On December 20, 2011, President Obama signed into law the Hoover Power Allocation Act of 2011 (H.R. 470). This new law requires the Western Area Power Administration to renew existing contracts for electric energy generated at the Hoover Power Plant for an additional 50 years through September 2067. The contractors will retain 95 percent of their existing power rights. The law will allow Metropolitan to continue to receive a significant amount of power from the Hoover power plant after the current contract expires in 2017.

The remaining approximately 30 to 45 percent of annual pumping power requirements for full capacity pumping on the Colorado River Aqueduct is obtained through energy purchases from municipal and investor-owned utilities or power marketers. Gross diversions of water from Lake Havasu for the fiscal years ended June 30, 2011 and June 30, 2012 were approximately 1,005,000 acre-feet and 724,413 acre-feet, respectively, including Metropolitan's basic apportionment of Colorado River water and supplies from water transfer and groundwater storage programs.

The Metropolitan-Edison 1987 Service and Interchange Agreement includes provisions for the sharing of the benefits realized by the integrated operation of Edison's and Metropolitan's electric systems. Under this agreement, with a prior year pumping operation of 1 million acre-feet, Edison provides Metropolitan additional energy (benefit energy) sufficient to pump approximately 140,000 acre-feet annually. As the amount of pumping is increased, the amount of benefit energy provided by Edison is reduced.

Under maximum pumping conditions, Metropolitan can require up to one million megawatt-hours per year in excess of the base resources available to Metropolitan from the Hoover Power Plant, the Parker Power Plant, and Edison benefit energy. Metropolitan is a member of the Western Systems Power Pool ("WSPP"), and utilizes its industry standard form contract to make wholesale power purchases at market cost. Metropolitan acquires the majority of its supplemental power from WSPP members. In calendar years 2010 and 2011, Metropolitan purchased 755,000 megawatt- hours and 100,000 megawatt-hours, respectively, of energy above its base power resources. In calendar year 2012, Metropolitan pumped approximately 739,000 acre-feet of its Colorado River water and additional supplies from other Colorado River sources but did not purchase any additional energy supplies above its base power resources.

State Water Project

The State Water Project's power requirements are met from a diverse mix of resources, including State-owned hydroelectric generating facilities. DWR has long-term contracts with Nevada Energy (coal-fired energy, expires in July 2013), Morgan Stanley (unspecified energy sources), Metropolitan (hydropower), Kern River Conservation District (hydropower) and the Northern California Power Agency (natural gas generation). The remainder of its power needs is met by short-term purchases. Metropolitan pays approximately 70 percent of State Water Project power costs.

DWR is seeking renewal of the license issued by FERC for the State Water Project's Hyatt-Thermalito hydroelectric generating facilities at Lake Oroville. A Settlement Agreement containing recommended conditions for the new license was submitted to FERC in March 2006. That agreement was signed by over 50 stakeholders, including Metropolitan and other State Water Project contractors. With only a few minor modifications, FERC staff recommended that the Settlement Agreement be adopted as the condition for the new license. DWR issued a Final EIR for the relicensing project on July 22, 2008. On August 21, 2008, Butte County and Plumas County filed separate lawsuits against DWR challenging the adequacy of the Final EIR. This lawsuit also named all of the signatories to the Settlement Agreement as "real parties in interest," since they could be adversely affected by this litigation. A trial was conducted in January 2012. On May 16, 2012, the court found that the EIR prepared in conjunction with the relicensing was adequate and dismissed the lawsuit against DWR. On August 7, 2012, Butte and Plumas Counties filed a notice of appeal. A briefing schedule has not been set. Regulatory permits and authorizations are required before the new license can take effect. Chief among these is a biological opinion from the National Marine Fisheries Service setting forth the terms and conditions under which the relicensing project must operate in order to avoid adverse impacts to threatened and endangered species. DWR has filed an application requesting this biological opinion. FERC has issued one-year renewals of the existing license since its initial expiration date on January 31, 2007, and is expected to issue successive one-year renewals until a new license is obtained.

DWR receives transmission service from investor-owned utilities under existing contracts and from the California Independent System Operator, a nonprofit public benefit corporation formed in 1996 pursuant to legislation that restructured and deregulated the electric utility industry in California. The transmission service provider may seek increased transmission rates, subject to the approval of FERC. DWR has the right to contest any such proposed increase. DWR may be subject to increases in the cost of transmission service as new electric grid facilities are constructed.

Energy Management Program

Metropolitan staff completed a comprehensive Energy Management and Reliability Study in late 2009 and Metropolitan's Board adopted energy management policies in August 2010 that provide objectives for future energy-related projects to contain costs and reduce Metropolitan's exposure to energy price volatility, increase operational reliability through renewable energy projects, provide a revenue stream to offset energy costs and move Metropolitan toward energy independence.

Metropolitan's Energy Management Program mandates that Metropolitan design and operate its facilities in the most energy-efficient and cost-effective manner. This program includes: setting design standards for energy-efficient facilities; taking advantage of available rebates for energy efficiency and energy-saving projects; operating Metropolitan's facilities in the most energy-efficient manner; and continuing to investigate alternative energy sources, such as solar and wind power. Metropolitan has completed energy efficiency assessments at all five of its water treatment plants and is evaluating recommendations for proposed changes. Metropolitan has completed construction of a one-megawatt solar generation facility at the Robert A. Skinner Treatment Plant and is investigating additional solar power generation at other treatment plants and facilities. Metropolitan has begun integrating fuel-efficient hybrid vehicles into its fleet and assessing the use of alternative fuels (biodiesel) for its off-road vehicles and construction equipment. Finally, Metropolitan is assessing the feasibility of expanding its hydroelectric generation capabilities.

In February 2007, the Board authorized Metropolitan's membership in the California Climate Action Registry, a nonprofit voluntary registry for greenhouse gas emissions that was established by the California Legislature in 2000. Metropolitan began annual reporting of its certified baseline greenhouse gas inventory, or carbon footprint, in calendar year 2005 to the California Climate Action Registry. In calendar year 2010, Metropolitan's emissions reporting transitioned from the California Climate Action Registry to The Climate Registry, a nonprofit North American emission registry. Metropolitan also reports required emissions data to

the California Air Resources Board ("CARB") under mandatory reporting regulations adopted pursuant to AB 32, California's Global Warming Solutions Act. On December 16, 2010, CARB adopted a regulation for a California cap on greenhouse gas emissions under AB 32, and after additional workshops, public comment and further consideration, approved the regulation on October 20, 2011, with compliance deferred to 2013. Under the regulation, Metropolitan will be regulated as an importer of energy and will be required to purchase allowances to cover any greenhouse gas emissions associated with its supplemental imported energy. Metropolitan does not anticipate it will incur cap and trade allowance obligations in 2013.

Appendix G

Water Supply Assessment Checklist

Water Supply Assessment Checklist

Water Code Section	Water Supply Assessment Content	Page # in WSA
10910(c)(2)	Incorporate data from UWMP.	1-27
10910(d)(1)	Identification of existing water supply entitlements, water rights, or water service contracts relevant to identified water supply for proposed project, and description of quantity of water received in prior years.	17-26
10910(d)(2)(A)	Written contracts or other proof of entitlement to an identified water supply.	17-26
10910(d)(2)(B)	Capital outlay program for financing the delivery of a water supply that has been adopted.	26
10910(d)(2)(C)	Federal, state, and local permits for construction of necessary infrastructure associated with delivering the water supply.	15-26
10910(d)(2)(D)	Any necessary regulatory approval to deliver/convey the water supply.	15-26
10910(f)(1)	Review of any information contained in the UWMP relevant to the identified water supply for the proposed project.	1-26
10910(f)(2)	Description of any groundwater basin(s) from which proposed project will be supplied. For basins with adjudicated groundwater pumping rights, include a copy of the order/decree adopted by the court or the board and a description of quantity of groundwater public water system has the legal right to pump under the order/decree.	17-18, 20-21, Appendix D
10910(f)(3)	Description and analysis of amount and location of groundwater pumped for the past 5 years from any groundwater basin from which the proposed project will be supplied.	20-21
10910(f)(4)	Description and analysis of amount and location of groundwater that is projected to be pumped from any basin to provided water to the proposed project.	17-18, 20-21
10910(f)(5)	Analysis of sufficiency of groundwater from the basins from which the proposed project will be supplied to meet projected water demand of the proposed project.	17-18, 20-21

Appendix B Traffic Counts

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 13-5557-001

Day: Tuesday

City: Los Angeles

Date: 10/29/2013

AM

NS/EW Streets:	Los Angeles St			Los Angeles St			US-101 SB Off-Ramp			US-101 SB Off-Ramp			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	3	0	0	3	0	0	0	2	0	0	0	
7:00 AM		58			132				104				294
7:15 AM		56			150				107				313
7:30 AM		60			157				95				312
7:45 AM		75			181				108				364
8:00 AM		72			170				106				348
8:15 AM		55			170				95				320
8:30 AM		79			162				112				353
8:45 AM		69			177				125				371
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	524	0	0	1299	0	0	0	852	0	0	0	2675
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	#DIV/0!	#DIV/0!	#DIV/0!	
PEAK HR START TIME :	800 AM												TOTAL
PEAK HR VOL :	0	275	0	0	679	0	0	0	438	0	0	0	1392
PEAK HR FACTOR :		0.870			0.959			0.876			0.000		0.938

CONTROL : 1-Way Stop (EB)

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 13-5557-001

Day: Tuesday

City: Los Angeles

Date: 10/29/2013

PM

NS/EW Streets:	Los Angeles St			Los Angeles St			US-101 SB Off-Ramp			US-101 SB Off-Ramp			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	3	0	0	3	0	0	0	2	0	0	0	
4:00 PM		207			52				35				294
4:15 PM		199			49				31				279
4:30 PM		239			54				23				316
4:45 PM		248			62				41				351
5:00 PM		295			53				43				391
5:15 PM		333			50				19				402
5:30 PM		329			45				21				395
5:45 PM		302			59				28				389
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	2152	0	0	424	0	0	0	241	0	0	0	2817
APPROACH %'s :	0.00%	100.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	100.00%	#DIV/0!	#DIV/0!	#DIV/0!	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	0	1259	0	0	207	0	0	0	111	0	0	0	1577
PEAK HR FACTOR :		0.945			0.877			0.645			0.000		0.981

CONTROL : 1-Way Stop (EB)

ITM Peak Hour Summary

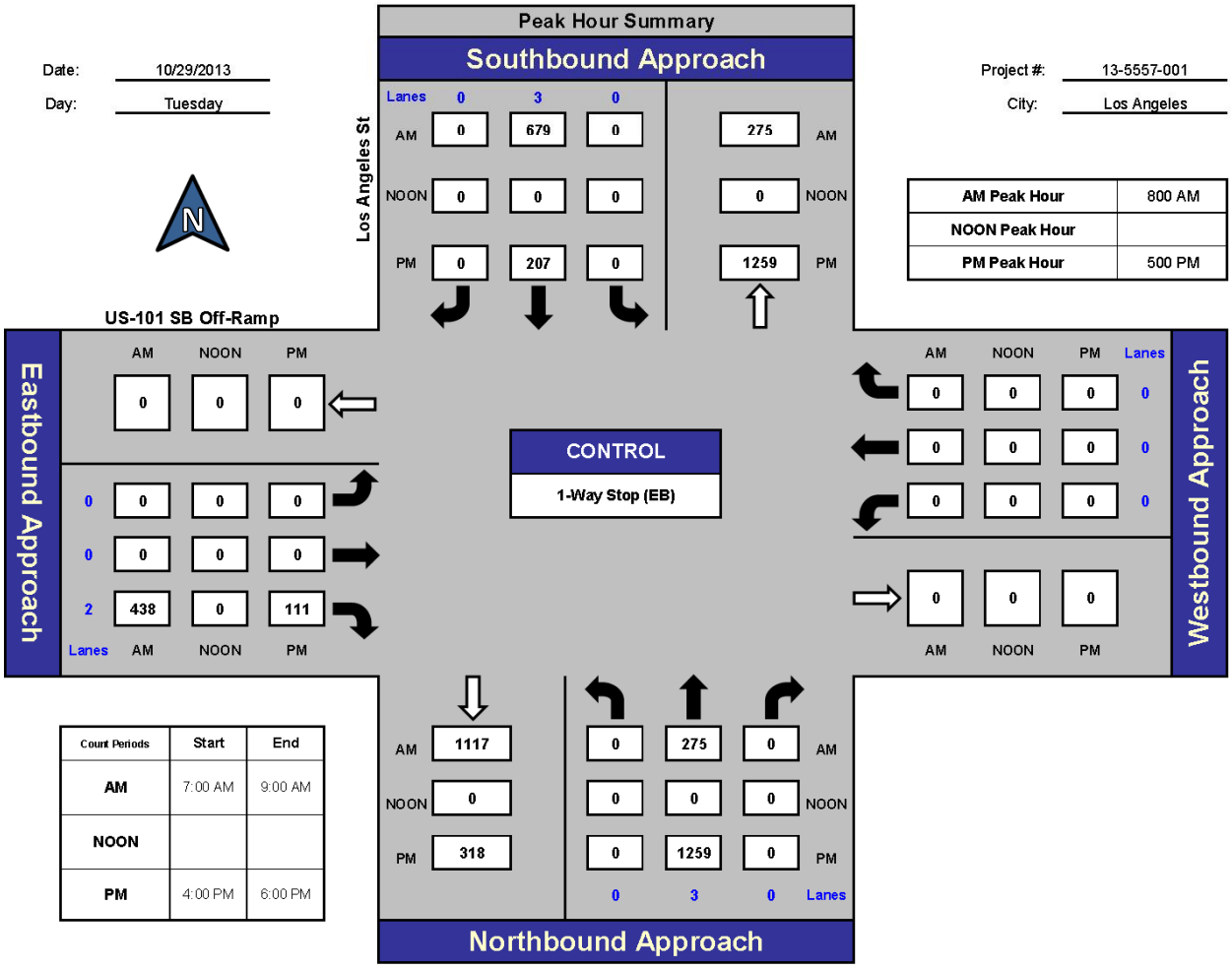
Prepared by:

National Data & Surveying Services

Los Angeles St and US-101 SB Off-Ramp , Los Angeles

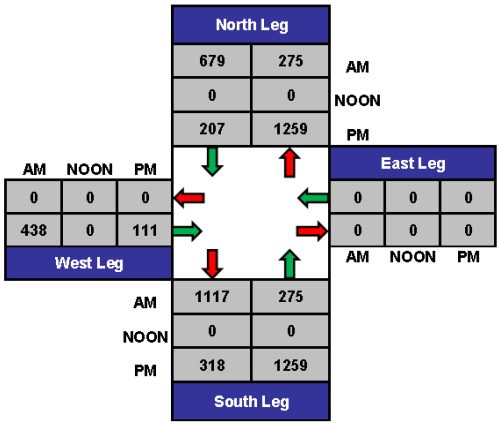
Date: 10/29/2013
Day: Tuesday
Project #: 13-5557-001
City: Los Angeles

AM Peak Hour	800 AM
NOON Peak Hour	
PM Peak Hour	500 PM

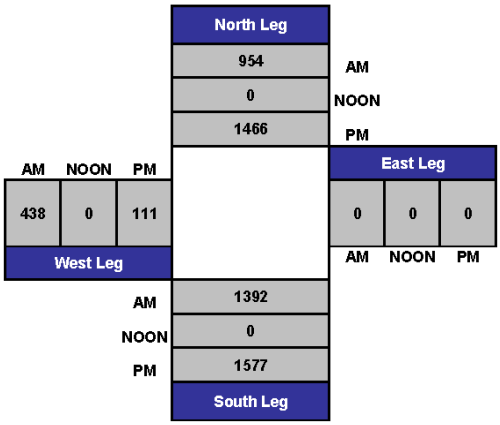


Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON		
PM	4:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



ATTACHMENT 2

QUEUE WORKSHEETS

Intersection	
Intersection Delay, s/veh	4.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	438	0	275	679	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	466	0	293	722	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	839	361	722	0	-	0
Stage 1	722	-	-	-	-	-
Stage 2	117	-	-	-	-	-
Follow-up Headway	3.67	3.32	2.22	-	-	-
Pot Capacity-1 Maneuver	337	636	876	-	-	-
Stage 1	430	-	-	-	-	-
Stage 2	855	-	-	-	-	-
Time blocked-Platoon, %				-	-	-
Mov Capacity-1 Maneuver	337	636	876	-	-	-
Mov Capacity-2 Maneuver	337	-	-	-	-	-
Stage 1	430	-	-	-	-	-
Stage 2	855	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.9	0	0
HCM LOS	B		

Minor Lane / Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	876	-	636	636	-	-
HCM Lane V/C Ratio	-	-	0.366	0.366	-	-
HCM Control Delay (s)	0	-	13.9	13.9	-	-
HCM Lane LOS	A		B	B		
HCM 95th %tile Q(veh)	0	-	1.678	1.678	-	-

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	0.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	111	0	1259	207	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	113	0	1285	211	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	725	106	211	0	-	0
Stage 1	211	-	-	-	-	-
Stage 2	514	-	-	-	-	-
Follow-up Headway	3.67	3.32	2.22	-	-	-
Pot Capacity-1 Maneuver	391	928	1357	-	-	-
Stage 1	774	-	-	-	-	-
Stage 2	532	-	-	-	-	-
Time blocked-Platoon, %				-	-	-
Mov Capacity-1 Maneuver	391	928	1357	-	-	-
Mov Capacity-2 Maneuver	391	-	-	-	-	-
Stage 1	774	-	-	-	-	-
Stage 2	532	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.1	0	0
HCM LOS	A		

Minor Lane / Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1357	-	928	928	-	-
HCM Lane V/C Ratio	-	-	0.061	0.061	-	-
HCM Control Delay (s)	0	-	9.1	9.1	-	-
HCM Lane LOS	A		A	A		
HCM 95th %tile Q(veh)	0	-	0.195	0.195	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	5.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	533	0	292	698	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	567	0	311	743	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	867	371	743	0	-	0
Stage 1	743	-	-	-	-	-
Stage 2	124	-	-	-	-	-
Follow-up Headway	3.67	3.32	2.22	-	-	-
Pot Capacity-1 Maneuver	325	626	860	-	-	-
Stage 1	419	-	-	-	-	-
Stage 2	848	-	-	-	-	-
Time blocked-Platoon, %				-	-	-
Mov Capacity-1 Maneuver	325	626	860	-	-	-
Mov Capacity-2 Maneuver	325	-	-	-	-	-
Stage 1	419	-	-	-	-	-
Stage 2	848	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15.4	0	0
HCM LOS	C		

Minor Lane / Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	860	-	626	626	-	-
HCM Lane V/C Ratio	-	-	0.453	0.453	-	-
HCM Control Delay (s)	0	-	15.4	15.4	-	-
HCM Lane LOS	A		C	C		
HCM 95th %tile Q(veh)	0	-	2.354	2.354	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	0.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	154	0	1396	216	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	157	0	1424	220	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	790	110	220	0	-	0
Stage 1	220	-	-	-	-	-
Stage 2	570	-	-	-	-	-
Follow-up Headway	3.67	3.32	2.22	-	-	-
Pot Capacity-1 Maneuver	359	922	1346	-	-	-
Stage 1	766	-	-	-	-	-
Stage 2	497	-	-	-	-	-
Time blocked-Platoon, %				-	-	-
Mov Capacity-1 Maneuver	359	922	1346	-	-	-
Mov Capacity-2 Maneuver	359	-	-	-	-	-
Stage 1	766	-	-	-	-	-
Stage 2	497	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.3	0	0
HCM LOS	A		

Minor Lane / Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1346	-	922	922	-	-
HCM Lane V/C Ratio	-	-	0.085	0.085	-	-
HCM Control Delay (s)	0	-	9.3	9.3	-	-
HCM Lane LOS	A		A	A		
HCM 95th %tile Q(veh)	0	-	0.279	0.279	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	5.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	515	0	289	694	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	548	0	307	738	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	861	369	738	0	-	0
Stage 1	738	-	-	-	-	-
Stage 2	123	-	-	-	-	-
Follow-up Headway	3.67	3.32	2.22	-	-	-
Pot Capacity-1 Maneuver	327	628	864	-	-	-
Stage 1	422	-	-	-	-	-
Stage 2	849	-	-	-	-	-
Time blocked-Platoon, %				-	-	-
Mov Capacity-1 Maneuver	327	628	864	-	-	-
Mov Capacity-2 Maneuver	327	-	-	-	-	-
Stage 1	422	-	-	-	-	-
Stage 2	849	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15.1	0	0
HCM LOS	C		

Minor Lane / Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	864	-	628	628	-	-
HCM Lane V/C Ratio	-	-	0.436	0.436	-	-
HCM Control Delay (s)	0	-	15.1	15.1	-	-
HCM Lane LOS	A		C	C		
HCM 95th %tile Q(veh)	0	-	2.211	2.211	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	0.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	146	0	1371	214	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	149	0	1399	218	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	778	109	218	0	-	0
Stage 1	218	-	-	-	-	-
Stage 2	560	-	-	-	-	-
Follow-up Headway	3.67	3.32	2.22	-	-	-
Pot Capacity-1 Maneuver	365	924	1349	-	-	-
Stage 1	768	-	-	-	-	-
Stage 2	503	-	-	-	-	-
Time blocked-Platoon, %				-	-	-
Mov Capacity-1 Maneuver	365	924	1349	-	-	-
Mov Capacity-2 Maneuver	365	-	-	-	-	-
Stage 1	768	-	-	-	-	-
Stage 2	503	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.2	0	0
HCM LOS	A		

Minor Lane / Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1349	-	924	924	-	-
HCM Lane V/C Ratio	-	-	0.081	0.081	-	-
HCM Control Delay (s)	0	-	9.2	9.2	-	-
HCM Lane LOS	A		A	A		
HCM 95th %tile Q(veh)	0	-	0.262	0.262	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	648	0	313	721	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	689	0	333	767	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	900	384	767	0	-	0
Stage 1	767	-	-	-	-	-
Stage 2	133	-	-	-	-	-
Follow-up Headway	3.67	3.32	2.22	-	-	-
Pot Capacity-1 Maneuver	311	# 614	842	-	-	-
Stage 1	407	-	-	-	-	-
Stage 2	839	-	-	-	-	-
Time blocked-Platoon, %				-	-	-
Mov Capacity-1 Maneuver	311	# 614	842	-	-	-
Mov Capacity-2 Maneuver	311	-	-	-	-	-
Stage 1	407	-	-	-	-	-
Stage 2	839	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	18.1	0	0
HCM LOS	C		

Minor Lane / Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	842	-	614	614	-	-
HCM Lane V/C Ratio	-	-	0.561	0.561	-	-
HCM Control Delay (s)	0	-	18.1	18.1	-	-
HCM Lane LOS	A		C	C		
HCM 95th %tile Q(veh)	0	-	3.48	3.48	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	209	0	1563	227	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	213	0	1595	232	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	870	116	232	0	-	0
Stage 1	232	-	-	-	-	-
Stage 2	638	-	-	-	-	-
Follow-up Headway	3.67	3.32	2.22	-	-	-
Pot Capacity-1 Maneuver	324	914	1333	-	-	-
Stage 1	756	-	-	-	-	-
Stage 2	457	-	-	-	-	-
Time blocked-Platoon, %				-	-	-
Mov Capacity-1 Maneuver	324	914	1333	-	-	-
Mov Capacity-2 Maneuver	324	-	-	-	-	-
Stage 1	756	-	-	-	-	-
Stage 2	457	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.5	0	0
HCM LOS	A		

Minor Lane / Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1333	-	914	914	-	-
HCM Lane V/C Ratio	-	-	0.117	0.117	-	-
HCM Control Delay (s)	0	-	9.5	9.5	-	-
HCM Lane LOS	A		A	A		
HCM 95th %tile Q(veh)	0	-	0.395	0.395	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	6.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	613	0	307	714	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	652	0	327	760	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	891	380	760	0	-	0
Stage 1	760	-	-	-	-	-
Stage 2	131	-	-	-	-	-
Follow-up Headway	3.67	3.32	2.22	-	-	-
Pot Capacity-1 Maneuver	315	# 618	848	-	-	-
Stage 1	411	-	-	-	-	-
Stage 2	841	-	-	-	-	-
Time blocked-Platoon, %				-	-	-
Mov Capacity-1 Maneuver	315	# 618	848	-	-	-
Mov Capacity-2 Maneuver	315	-	-	-	-	-
Stage 1	411	-	-	-	-	-
Stage 2	841	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	17.1	0	0
HCM LOS	C		

Minor Lane / Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	848	-	618	618	-	-
HCM Lane V/C Ratio	-	-	0.528	0.528	-	-
HCM Control Delay (s)	0	-	17.1	17.1	-	-
HCM Lane LOS	A		C	C		
HCM 95th %tile Q(veh)	0	-	3.089	3.089	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	0.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	193	0	1513	224	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	197	0	1544	229	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	847	114	229	0	-	0
Stage 1	229	-	-	-	-	-
Stage 2	618	-	-	-	-	-
Follow-up Headway	3.67	3.32	2.22	-	-	-
Pot Capacity-1 Maneuver	333	917	1336	-	-	-
Stage 1	759	-	-	-	-	-
Stage 2	469	-	-	-	-	-
Time blocked-Platoon, %				-	-	-
Mov Capacity-1 Maneuver	333	917	1336	-	-	-
Mov Capacity-2 Maneuver	333	-	-	-	-	-
Stage 1	759	-	-	-	-	-
Stage 2	469	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.4	0	0
HCM LOS	A		

Minor Lane / Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1336	-	917	917	-	-
HCM Lane V/C Ratio	-	-	0.107	0.107	-	-
HCM Control Delay (s)	0	-	9.4	9.4	-	-
HCM Lane LOS	A		A	A		
HCM 95th %tile Q(veh)	0	-	0.36	0.36	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	9.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	764	0	334	744	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	813	0	355	791	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	933	396	791	0	-	0
Stage 1	791	-	-	-	-	-
Stage 2	142	-	-	-	-	-
Follow-up Headway	3.67	3.32	2.22	-	-	-
Pot Capacity-1 Maneuver	298	# 603	825	-	-	-
Stage 1	396	-	-	-	-	-
Stage 2	830	-	-	-	-	-
Time blocked-Platoon, %				-	-	-
Mov Capacity-1 Maneuver	298	# 603	825	-	-	-
Mov Capacity-2 Maneuver	298	-	-	-	-	-
Stage 1	396	-	-	-	-	-
Stage 2	830	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	22.4	0	0
HCM LOS	C		

Minor Lane / Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	825	-	603	603	-	-
HCM Lane V/C Ratio	-	-	0.674	0.674	-	-
HCM Control Delay (s)	0	-	22.4	22.4	-	-
HCM Lane LOS	A		C	C		
HCM 95th %tile Q(veh)	0	-	5.13	5.13	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	1.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	262	0	1730	237	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	267	0	1765	242	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	948	121	242	0	-	0
Stage 1	242	-	-	-	-	-
Stage 2	706	-	-	-	-	-
Follow-up Headway	3.67	3.32	2.22	-	-	-
Pot Capacity-1 Maneuver	292	908	1322	-	-	-
Stage 1	748	-	-	-	-	-
Stage 2	421	-	-	-	-	-
Time blocked-Platoon, %				-	-	-
Mov Capacity-1 Maneuver	292	908	1322	-	-	-
Mov Capacity-2 Maneuver	292	-	-	-	-	-
Stage 1	748	-	-	-	-	-
Stage 2	421	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.6	0	0
HCM LOS	A		

Minor Lane / Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1322	-	908	908	-	-
HCM Lane V/C Ratio	-	-	0.147	0.147	-	-
HCM Control Delay (s)	0	-	9.6	9.6	-	-
HCM Lane LOS	A		A	A		
HCM 95th %tile Q(veh)	0	-	0.515	0.515	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	8.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	712	0	324	734	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	757	0	345	781	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	919	390	781	0	-	0
Stage 1	781	-	-	-	-	-
Stage 2	138	-	-	-	-	-
Follow-up Headway	3.67	3.32	2.22	-	-	-
Pot Capacity-1 Maneuver	303	# 609	832	-	-	-
Stage 1	401	-	-	-	-	-
Stage 2	834	-	-	-	-	-
Time blocked-Platoon, %				-	-	-
Mov Capacity-1 Maneuver	303	# 609	832	-	-	-
Mov Capacity-2 Maneuver	303	-	-	-	-	-
Stage 1	401	-	-	-	-	-
Stage 2	834	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	20.1	0	0
HCM LOS	C		

Minor Lane / Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	832	-	609	609	-	-
HCM Lane V/C Ratio	-	-	0.622	0.622	-	-
HCM Control Delay (s)	0	-	20.1	20.1	-	-
HCM Lane LOS	A		C	C		
HCM 95th %tile Q(veh)	0	-	4.294	4.294	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	1.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	238	0	1655	232	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	243	0	1689	237	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	913	118	237	0	-	0
Stage 1	237	-	-	-	-	-
Stage 2	676	-	-	-	-	-
Follow-up Headway	3.67	3.32	2.22	-	-	-
Pot Capacity-1 Maneuver	306	912	1327	-	-	-
Stage 1	752	-	-	-	-	-
Stage 2	437	-	-	-	-	-
Time blocked-Platoon, %				-	-	-
Mov Capacity-1 Maneuver	306	912	1327	-	-	-
Mov Capacity-2 Maneuver	306	-	-	-	-	-
Stage 1	752	-	-	-	-	-
Stage 2	437	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.6	0	0
HCM LOS	A		

Minor Lane / Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1327	-	912	912	-	-
HCM Lane V/C Ratio	-	-	0.133	0.133	-	-
HCM Control Delay (s)	0	-	9.6	9.6	-	-
HCM Lane LOS	A		A	A		
HCM 95th %tile Q(veh)	0	-	0.459	0.459	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	4.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	575	0	595	739	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	587	0	607	754	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	997	377	754	0	-	0
Stage 1	754	-	-	-	-	-
Stage 2	243	-	-	-	-	-
Follow-up Headway	3.67	3.32	2.22	-	-	-
Pot Capacity-1 Maneuver	274	621	852	-	-	-
Stage 1	414	-	-	-	-	-
Stage 2	737	-	-	-	-	-
Time blocked-Platoon, %				-	-	-
Mov Capacity-1 Maneuver	274	621	852	-	-	-
Mov Capacity-2 Maneuver	274	-	-	-	-	-
Stage 1	414	-	-	-	-	-
Stage 2	737	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15.9	0	0
HCM LOS	C		

Minor Lane / Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	852	-	621	621	-	-
HCM Lane V/C Ratio	-	-	0.472	0.472	-	-
HCM Control Delay (s)	0	-	15.9	15.9	-	-
HCM Lane LOS	A		C	C		
HCM 95th %tile Q(veh)	0	-	2.53	2.53	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	1.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	294	0	1528	283	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	300	0	1559	289	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	913	144	289	0	-	0
Stage 1	289	-	-	-	-	-
Stage 2	624	-	-	-	-	-
Follow-up Headway	3.67	3.32	2.22	-	-	-
Pot Capacity-1 Maneuver	306	877	1270	-	-	-
Stage 1	709	-	-	-	-	-
Stage 2	465	-	-	-	-	-
Time blocked-Platoon, %				-	-	-
Mov Capacity-1 Maneuver	306	877	1270	-	-	-
Mov Capacity-2 Maneuver	306	-	-	-	-	-
Stage 1	709	-	-	-	-	-
Stage 2	465	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10	0	0
HCM LOS	B		

Minor Lane / Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1270	-	877	877	-	-
HCM Lane V/C Ratio	-	-	0.171	0.171	-	-
HCM Control Delay (s)	0	-	10	10	-	-
HCM Lane LOS	A		B	B		
HCM 95th %tile Q(veh)	0	-	0.615	0.615	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	5.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	670	0	612	758	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	684	0	624	773	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1023	387	773	0	-	0
Stage 1	773	-	-	-	-	-
Stage 2	250	-	-	-	-	-
Follow-up Headway	3.67	3.32	2.22	-	-	-
Pot Capacity-1 Maneuver	264	# 611	838	-	-	-
Stage 1	405	-	-	-	-	-
Stage 2	731	-	-	-	-	-
Time blocked-Platoon, %				-	-	-
Mov Capacity-1 Maneuver	264	# 611	838	-	-	-
Mov Capacity-2 Maneuver	264	-	-	-	-	-
Stage 1	405	-	-	-	-	-
Stage 2	731	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	18.1	0	0
HCM LOS	C		

Minor Lane / Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	838	-	611	611	-	-
HCM Lane V/C Ratio	-	-	0.559	0.559	-	-
HCM Control Delay (s)	0	-	18.1	18.1	-	-
HCM Lane LOS	A		C	C		
HCM 95th %tile Q(veh)	0	-	3.455	3.455	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	1.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	337	0	1665	292	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	344	0	1699	298	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	978	149	298	0	-	0
Stage 1	298	-	-	-	-	-
Stage 2	680	-	-	-	-	-
Follow-up Headway	3.67	3.32	2.22	-	-	-
Pot Capacity-1 Maneuver	281	871	1260	-	-	-
Stage 1	701	-	-	-	-	-
Stage 2	435	-	-	-	-	-
Time blocked-Platoon, %				-	-	-
Mov Capacity-1 Maneuver	281	871	1260	-	-	-
Mov Capacity-2 Maneuver	281	-	-	-	-	-
Stage 1	701	-	-	-	-	-
Stage 2	435	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.1	0	0
HCM LOS	B		

Minor Lane / Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1260	-	871	871	-	-
HCM Lane V/C Ratio	-	-	0.197	0.197	-	-
HCM Control Delay (s)	0	-	10.1	10.1	-	-
HCM Lane LOS	A		B	B		
HCM 95th %tile Q(veh)	0	-	0.732	0.732	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	5.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	652	0	609	754	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	665	0	621	769	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1018	385	769	0	-	0
Stage 1	769	-	-	-	-	-
Stage 2	249	-	-	-	-	-
Follow-up Headway	3.67	3.32	2.22	-	-	-
Pot Capacity-1 Maneuver	266	# 613	841	-	-	-
Stage 1	406	-	-	-	-	-
Stage 2	731	-	-	-	-	-
Time blocked-Platoon, %				-	-	-
Mov Capacity-1 Maneuver	266	# 613	841	-	-	-
Mov Capacity-2 Maneuver	266	-	-	-	-	-
Stage 1	406	-	-	-	-	-
Stage 2	731	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	17.6	0	0
HCM LOS	C		

Minor Lane / Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	841	-	613	613	-	-
HCM Lane V/C Ratio	-	-	0.543	0.543	-	-
HCM Control Delay (s)	0	-	17.6	17.6	-	-
HCM Lane LOS	A		C	C		
HCM 95th %tile Q(veh)	0	-	3.257	3.257	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	1.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	329	0	1640	290	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	336	0	1673	296	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	965	148	296	0	-	0
Stage 1	296	-	-	-	-	-
Stage 2	669	-	-	-	-	-
Follow-up Headway	3.67	3.32	2.22	-	-	-
Pot Capacity-1 Maneuver	286	872	1262	-	-	-
Stage 1	703	-	-	-	-	-
Stage 2	440	-	-	-	-	-
Time blocked-Platoon, %				-	-	-
Mov Capacity-1 Maneuver	286	872	1262	-	-	-
Mov Capacity-2 Maneuver	286	-	-	-	-	-
Stage 1	703	-	-	-	-	-
Stage 2	440	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.1	0	0
HCM LOS	B		

Minor Lane / Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1262	-	872	872	-	-
HCM Lane V/C Ratio	-	-	0.192	0.192	-	-
HCM Control Delay (s)	0	-	10.1	10.1	-	-
HCM Lane LOS	A		B	B		
HCM 95th %tile Q(veh)	0	-	0.709	0.709	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	7.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	785	0	633	781	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	801	0	646	797	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1055	398	797	0	-	0
Stage 1	797	-	-	-	-	-
Stage 2	258	-	-	-	-	-
Follow-up Headway	3.67	3.32	2.22	-	-	-
Pot Capacity-1 Maneuver	253	# 601	821	-	-	-
Stage 1	393	-	-	-	-	-
Stage 2	724	-	-	-	-	-
Time blocked-Platoon, %				-	-	-
Mov Capacity-1 Maneuver	253	# 601	821	-	-	-
Mov Capacity-2 Maneuver	253	-	-	-	-	-
Stage 1	393	-	-	-	-	-
Stage 2	724	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	22.1	0	0
HCM LOS	C		

Minor Lane / Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	821	-	601	601	-	-
HCM Lane V/C Ratio	-	-	0.666	0.666	-	-
HCM Control Delay (s)	0	-	22.1	22.1	-	-
HCM Lane LOS	A		C	C		
HCM 95th %tile Q(veh)	0	-	4.997	4.997	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	1.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	392	0	1832	303	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	400	0	1869	309	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1057	155	309	0	-	0
Stage 1	309	-	-	-	-	-
Stage 2	748	-	-	-	-	-
Follow-up Headway	3.67	3.32	2.22	-	-	-
Pot Capacity-1 Maneuver	253	863	1248	-	-	-
Stage 1	693	-	-	-	-	-
Stage 2	400	-	-	-	-	-
Time blocked-Platoon, %				-	-	-
Mov Capacity-1 Maneuver	253	863	1248	-	-	-
Mov Capacity-2 Maneuver	253	-	-	-	-	-
Stage 1	693	-	-	-	-	-
Stage 2	400	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.4	0	0
HCM LOS	B		

Minor Lane / Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1248	-	863	863	-	-
HCM Lane V/C Ratio	-	-	0.232	0.232	-	-
HCM Control Delay (s)	0	-	10.4	10.4	-	-
HCM Lane LOS	A		B	B		
HCM 95th %tile Q(veh)	0	-	0.895	0.895	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	7.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	750	0	627	774	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	765	0	640	790	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1046	395	790	0	-	0
Stage 1	790	-	-	-	-	-
Stage 2	256	-	-	-	-	-
Follow-up Headway	3.67	3.32	2.22	-	-	-
Pot Capacity-1 Maneuver	257	# 604	826	-	-	-
Stage 1	397	-	-	-	-	-
Stage 2	725	-	-	-	-	-
Time blocked-Platoon, %				-	-	-
Mov Capacity-1 Maneuver	257	# 604	826	-	-	-
Mov Capacity-2 Maneuver	257	-	-	-	-	-
Stage 1	397	-	-	-	-	-
Stage 2	725	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	20.7	0	0
HCM LOS	C		

Minor Lane / Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	826	-	604	604	-	-
HCM Lane V/C Ratio	-	-	0.634	0.634	-	-
HCM Control Delay (s)	0	-	20.7	20.7	-	-
HCM Lane LOS	A		C	C		
HCM 95th %tile Q(veh)	0	-	4.466	4.466	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	1.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	376	0	1782	300	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	384	0	1818	306	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1033	153	306	0	-	0
Stage 1	306	-	-	-	-	-
Stage 2	727	-	-	-	-	-
Follow-up Headway	3.67	3.32	2.22	-	-	-
Pot Capacity-1 Maneuver	261	866	1252	-	-	-
Stage 1	695	-	-	-	-	-
Stage 2	410	-	-	-	-	-
Time blocked-Platoon, %				-	-	-
Mov Capacity-1 Maneuver	261	866	1252	-	-	-
Mov Capacity-2 Maneuver	261	-	-	-	-	-
Stage 1	695	-	-	-	-	-
Stage 2	410	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.3	0	0
HCM LOS	B		

Minor Lane / Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1252	-	866	866	-	-
HCM Lane V/C Ratio	-	-	0.222	0.222	-	-
HCM Control Delay (s)	0	-	10.3	10.3	-	-
HCM Lane LOS	A		B	B		
HCM 95th %tile Q(veh)	0	-	0.845	0.845	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	11.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	901	0	654	804	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	919	0	667	820	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1087	410	820	0	-	0
Stage 1	820	-	-	-	-	-
Stage 2	267	-	-	-	-	-
Follow-up Headway	3.67	3.32	2.22	-	-	-
Pot Capacity-1 Maneuver	243	# 591	805	-	-	-
Stage 1	383	-	-	-	-	-
Stage 2	716	-	-	-	-	-
Time blocked-Platoon, %				-	-	-
Mov Capacity-1 Maneuver	243	# 591	805	-	-	-
Mov Capacity-2 Maneuver	243	-	-	-	-	-
Stage 1	383	-	-	-	-	-
Stage 2	716	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	29.2	0	0
HCM LOS	D		

Minor Lane / Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	805	-	591	591	-	-
HCM Lane V/C Ratio	-	-	0.778	0.778	-	-
HCM Control Delay (s)	0	-	29.2	29.2	-	-
HCM Lane LOS	A		D	D		
HCM 95th %tile Q(veh)	0	-	7.277	7.277	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	1.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	445	0	1999	313	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	454	0	2040	319	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1135	160	319	0	-	0
Stage 1	319	-	-	-	-	-
Stage 2	816	-	-	-	-	-
Follow-up Headway	3.67	3.32	2.22	-	-	-
Pot Capacity-1 Maneuver	228	857	1238	-	-	-
Stage 1	685	-	-	-	-	-
Stage 2	367	-	-	-	-	-
Time blocked-Platoon, %				-	-	-
Mov Capacity-1 Maneuver	228	857	1238	-	-	-
Mov Capacity-2 Maneuver	228	-	-	-	-	-
Stage 1	685	-	-	-	-	-
Stage 2	367	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.7	0	0
HCM LOS	B		

Minor Lane / Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1238	-	857	857	-	-
HCM Lane V/C Ratio	-	-	0.265	0.265	-	-
HCM Control Delay (s)	0	-	10.7	10.7	-	-
HCM Lane LOS	A		B	B		
HCM 95th %tile Q(veh)	0	-	1.067	1.067	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	9.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	849	0	644	794	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	866	0	657	810	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1073	405	810	0	-	0
Stage 1	810	-	-	-	-	-
Stage 2	263	-	-	-	-	-
Follow-up Headway	3.67	3.32	2.22	-	-	-
Pot Capacity-1 Maneuver	247	# 595	812	-	-	-
Stage 1	387	-	-	-	-	-
Stage 2	719	-	-	-	-	-
Time blocked-Platoon, %				-	-	-
Mov Capacity-1 Maneuver	247	# 595	812	-	-	-
Mov Capacity-2 Maneuver	247	-	-	-	-	-
Stage 1	387	-	-	-	-	-
Stage 2	719	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	25.5	0	0
HCM LOS	D		

Minor Lane / Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	812	-	595	595	-	-
HCM Lane V/C Ratio	-	-	0.728	0.728	-	-
HCM Control Delay (s)	0	-	25.5	25.5	-	-
HCM Lane LOS	A		D	D		
HCM 95th %tile Q(veh)	0	-	6.156	6.156	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	1.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	421	0	1924	308	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	430	0	1963	314	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1099	157	314	0	-	0
Stage 1	314	-	-	-	-	-
Stage 2	785	-	-	-	-	-
Follow-up Headway	3.67	3.32	2.22	-	-	-
Pot Capacity-1 Maneuver	239	861	1243	-	-	-
Stage 1	689	-	-	-	-	-
Stage 2	382	-	-	-	-	-
Time blocked-Platoon, %				-	-	-
Mov Capacity-1 Maneuver	239	861	1243	-	-	-
Mov Capacity-2 Maneuver	239	-	-	-	-	-
Stage 1	689	-	-	-	-	-
Stage 2	382	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.6	0	0
HCM LOS	B		

Minor Lane / Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1243	-	861	861	-	-
HCM Lane V/C Ratio	-	-	0.249	0.249	-	-
HCM Control Delay (s)	0	-	10.6	10.6	-	-
HCM Lane LOS	A		B	B		
HCM 95th %tile Q(veh)	0	-	0.985	0.985	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Appendix C Queue Worksheets

Intersection	
Intersection Delay, s/veh	4.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	438	0	275	679	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	466	0	293	722	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	839	361	722	0	-	0
Stage 1	722	-	-	-	-	-
Stage 2	117	-	-	-	-	-
Follow-up Headway	3.67	3.32	2.22	-	-	-
Pot Capacity-1 Maneuver	337	636	876	-	-	-
Stage 1	430	-	-	-	-	-
Stage 2	855	-	-	-	-	-
Time blocked-Platoon, %				-	-	-
Mov Capacity-1 Maneuver	337	636	876	-	-	-
Mov Capacity-2 Maneuver	337	-	-	-	-	-
Stage 1	430	-	-	-	-	-
Stage 2	855	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.9	0	0
HCM LOS	B		

Minor Lane / Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	876	-	636	636	-	-
HCM Lane V/C Ratio	-	-	0.366	0.366	-	-
HCM Control Delay (s)	0	-	13.9	13.9	-	-
HCM Lane LOS	A		B	B		
HCM 95th %tile Q(veh)	0	-	1.678	1.678	-	-

Notes

~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	0.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	111	0	1259	207	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	113	0	1285	211	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	725	106	211	0	-	0
Stage 1	211	-	-	-	-	-
Stage 2	514	-	-	-	-	-
Follow-up Headway	3.67	3.32	2.22	-	-	-
Pot Capacity-1 Maneuver	391	928	1357	-	-	-
Stage 1	774	-	-	-	-	-
Stage 2	532	-	-	-	-	-
Time blocked-Platoon, %				-	-	-
Mov Capacity-1 Maneuver	391	928	1357	-	-	-
Mov Capacity-2 Maneuver	391	-	-	-	-	-
Stage 1	774	-	-	-	-	-
Stage 2	532	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.1	0	0
HCM LOS	A		

Minor Lane / Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1357	-	928	928	-	-
HCM Lane V/C Ratio	-	-	0.061	0.061	-	-
HCM Control Delay (s)	0	-	9.1	9.1	-	-
HCM Lane LOS	A		A	A		
HCM 95th %tile Q(veh)	0	-	0.195	0.195	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	5.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	533	0	292	698	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	567	0	311	743	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	867	371	743	0	-	0
Stage 1	743	-	-	-	-	-
Stage 2	124	-	-	-	-	-
Follow-up Headway	3.67	3.32	2.22	-	-	-
Pot Capacity-1 Maneuver	325	626	860	-	-	-
Stage 1	419	-	-	-	-	-
Stage 2	848	-	-	-	-	-
Time blocked-Platoon, %				-	-	-
Mov Capacity-1 Maneuver	325	626	860	-	-	-
Mov Capacity-2 Maneuver	325	-	-	-	-	-
Stage 1	419	-	-	-	-	-
Stage 2	848	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15.4	0	0
HCM LOS	C		

Minor Lane / Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	860	-	626	626	-	-
HCM Lane V/C Ratio	-	-	0.453	0.453	-	-
HCM Control Delay (s)	0	-	15.4	15.4	-	-
HCM Lane LOS	A		C	C		
HCM 95th %tile Q(veh)	0	-	2.354	2.354	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	0.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	154	0	1396	216	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	157	0	1424	220	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	790	110	220	0	-	0
Stage 1	220	-	-	-	-	-
Stage 2	570	-	-	-	-	-
Follow-up Headway	3.67	3.32	2.22	-	-	-
Pot Capacity-1 Maneuver	359	922	1346	-	-	-
Stage 1	766	-	-	-	-	-
Stage 2	497	-	-	-	-	-
Time blocked-Platoon, %				-	-	-
Mov Capacity-1 Maneuver	359	922	1346	-	-	-
Mov Capacity-2 Maneuver	359	-	-	-	-	-
Stage 1	766	-	-	-	-	-
Stage 2	497	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.3	0	0
HCM LOS	A		

Minor Lane / Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1346	-	922	922	-	-
HCM Lane V/C Ratio	-	-	0.085	0.085	-	-
HCM Control Delay (s)	0	-	9.3	9.3	-	-
HCM Lane LOS	A		A	A		
HCM 95th %tile Q(veh)	0	-	0.279	0.279	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	5.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	515	0	289	694	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	548	0	307	738	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	861	369	738	0	-	0
Stage 1	738	-	-	-	-	-
Stage 2	123	-	-	-	-	-
Follow-up Headway	3.67	3.32	2.22	-	-	-
Pot Capacity-1 Maneuver	327	628	864	-	-	-
Stage 1	422	-	-	-	-	-
Stage 2	849	-	-	-	-	-
Time blocked-Platoon, %				-	-	-
Mov Capacity-1 Maneuver	327	628	864	-	-	-
Mov Capacity-2 Maneuver	327	-	-	-	-	-
Stage 1	422	-	-	-	-	-
Stage 2	849	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15.1	0	0
HCM LOS	C		

Minor Lane / Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	864	-	628	628	-	-
HCM Lane V/C Ratio	-	-	0.436	0.436	-	-
HCM Control Delay (s)	0	-	15.1	15.1	-	-
HCM Lane LOS	A		C	C		
HCM 95th %tile Q(veh)	0	-	2.211	2.211	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	0.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	146	0	1371	214	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	149	0	1399	218	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	778	109	218	0	-	0
Stage 1	218	-	-	-	-	-
Stage 2	560	-	-	-	-	-
Follow-up Headway	3.67	3.32	2.22	-	-	-
Pot Capacity-1 Maneuver	365	924	1349	-	-	-
Stage 1	768	-	-	-	-	-
Stage 2	503	-	-	-	-	-
Time blocked-Platoon, %				-	-	-
Mov Capacity-1 Maneuver	365	924	1349	-	-	-
Mov Capacity-2 Maneuver	365	-	-	-	-	-
Stage 1	768	-	-	-	-	-
Stage 2	503	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.2	0	0
HCM LOS	A		

Minor Lane / Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1349	-	924	924	-	-
HCM Lane V/C Ratio	-	-	0.081	0.081	-	-
HCM Control Delay (s)	0	-	9.2	9.2	-	-
HCM Lane LOS	A		A	A		
HCM 95th %tile Q(veh)	0	-	0.262	0.262	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	648	0	313	721	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	689	0	333	767	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	900	384	767	0	-	0
Stage 1	767	-	-	-	-	-
Stage 2	133	-	-	-	-	-
Follow-up Headway	3.67	3.32	2.22	-	-	-
Pot Capacity-1 Maneuver	311	# 614	842	-	-	-
Stage 1	407	-	-	-	-	-
Stage 2	839	-	-	-	-	-
Time blocked-Platoon, %				-	-	-
Mov Capacity-1 Maneuver	311	# 614	842	-	-	-
Mov Capacity-2 Maneuver	311	-	-	-	-	-
Stage 1	407	-	-	-	-	-
Stage 2	839	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	18.1	0	0
HCM LOS	C		

Minor Lane / Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	842	-	614	614	-	-
HCM Lane V/C Ratio	-	-	0.561	0.561	-	-
HCM Control Delay (s)	0	-	18.1	18.1	-	-
HCM Lane LOS	A		C	C		
HCM 95th %tile Q(veh)	0	-	3.48	3.48	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	209	0	1563	227	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	213	0	1595	232	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	870	116	232	0	-	0
Stage 1	232	-	-	-	-	-
Stage 2	638	-	-	-	-	-
Follow-up Headway	3.67	3.32	2.22	-	-	-
Pot Capacity-1 Maneuver	324	914	1333	-	-	-
Stage 1	756	-	-	-	-	-
Stage 2	457	-	-	-	-	-
Time blocked-Platoon, %				-	-	-
Mov Capacity-1 Maneuver	324	914	1333	-	-	-
Mov Capacity-2 Maneuver	324	-	-	-	-	-
Stage 1	756	-	-	-	-	-
Stage 2	457	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.5	0	0
HCM LOS	A		

Minor Lane / Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1333	-	914	914	-	-
HCM Lane V/C Ratio	-	-	0.117	0.117	-	-
HCM Control Delay (s)	0	-	9.5	9.5	-	-
HCM Lane LOS	A		A	A		
HCM 95th %tile Q(veh)	0	-	0.395	0.395	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	6.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	613	0	307	714	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	652	0	327	760	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	891	380	760	0	-	0
Stage 1	760	-	-	-	-	-
Stage 2	131	-	-	-	-	-
Follow-up Headway	3.67	3.32	2.22	-	-	-
Pot Capacity-1 Maneuver	315	# 618	848	-	-	-
Stage 1	411	-	-	-	-	-
Stage 2	841	-	-	-	-	-
Time blocked-Platoon, %				-	-	-
Mov Capacity-1 Maneuver	315	# 618	848	-	-	-
Mov Capacity-2 Maneuver	315	-	-	-	-	-
Stage 1	411	-	-	-	-	-
Stage 2	841	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	17.1	0	0
HCM LOS	C		

Minor Lane / Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	848	-	618	618	-	-
HCM Lane V/C Ratio	-	-	0.528	0.528	-	-
HCM Control Delay (s)	0	-	17.1	17.1	-	-
HCM Lane LOS	A		C	C		
HCM 95th %tile Q(veh)	0	-	3.089	3.089	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	0.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	193	0	1513	224	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	197	0	1544	229	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	847	114	229	0	-	0
Stage 1	229	-	-	-	-	-
Stage 2	618	-	-	-	-	-
Follow-up Headway	3.67	3.32	2.22	-	-	-
Pot Capacity-1 Maneuver	333	917	1336	-	-	-
Stage 1	759	-	-	-	-	-
Stage 2	469	-	-	-	-	-
Time blocked-Platoon, %				-	-	-
Mov Capacity-1 Maneuver	333	917	1336	-	-	-
Mov Capacity-2 Maneuver	333	-	-	-	-	-
Stage 1	759	-	-	-	-	-
Stage 2	469	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.4	0	0
HCM LOS	A		

Minor Lane / Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1336	-	917	917	-	-
HCM Lane V/C Ratio	-	-	0.107	0.107	-	-
HCM Control Delay (s)	0	-	9.4	9.4	-	-
HCM Lane LOS	A		A	A		
HCM 95th %tile Q(veh)	0	-	0.36	0.36	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	9.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	764	0	334	744	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	813	0	355	791	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	933	396	791	0	-	0
Stage 1	791	-	-	-	-	-
Stage 2	142	-	-	-	-	-
Follow-up Headway	3.67	3.32	2.22	-	-	-
Pot Capacity-1 Maneuver	298	# 603	825	-	-	-
Stage 1	396	-	-	-	-	-
Stage 2	830	-	-	-	-	-
Time blocked-Platoon, %				-	-	-
Mov Capacity-1 Maneuver	298	# 603	825	-	-	-
Mov Capacity-2 Maneuver	298	-	-	-	-	-
Stage 1	396	-	-	-	-	-
Stage 2	830	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	22.4	0	0
HCM LOS	C		

Minor Lane / Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	825	-	603	603	-	-
HCM Lane V/C Ratio	-	-	0.674	0.674	-	-
HCM Control Delay (s)	0	-	22.4	22.4	-	-
HCM Lane LOS	A		C	C		
HCM 95th %tile Q(veh)	0	-	5.13	5.13	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	1.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	262	0	1730	237	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	267	0	1765	242	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	948	121	242	0	-	0
Stage 1	242	-	-	-	-	-
Stage 2	706	-	-	-	-	-
Follow-up Headway	3.67	3.32	2.22	-	-	-
Pot Capacity-1 Maneuver	292	908	1322	-	-	-
Stage 1	748	-	-	-	-	-
Stage 2	421	-	-	-	-	-
Time blocked-Platoon, %				-	-	-
Mov Capacity-1 Maneuver	292	908	1322	-	-	-
Mov Capacity-2 Maneuver	292	-	-	-	-	-
Stage 1	748	-	-	-	-	-
Stage 2	421	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.6	0	0
HCM LOS	A		

Minor Lane / Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1322	-	908	908	-	-
HCM Lane V/C Ratio	-	-	0.147	0.147	-	-
HCM Control Delay (s)	0	-	9.6	9.6	-	-
HCM Lane LOS	A		A	A		
HCM 95th %tile Q(veh)	0	-	0.515	0.515	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	8.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	712	0	324	734	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	757	0	345	781	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	919	390	781	0	-	0
Stage 1	781	-	-	-	-	-
Stage 2	138	-	-	-	-	-
Follow-up Headway	3.67	3.32	2.22	-	-	-
Pot Capacity-1 Maneuver	303	# 609	832	-	-	-
Stage 1	401	-	-	-	-	-
Stage 2	834	-	-	-	-	-
Time blocked-Platoon, %				-	-	-
Mov Capacity-1 Maneuver	303	# 609	832	-	-	-
Mov Capacity-2 Maneuver	303	-	-	-	-	-
Stage 1	401	-	-	-	-	-
Stage 2	834	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	20.1	0	0
HCM LOS	C		

Minor Lane / Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	832	-	609	609	-	-
HCM Lane V/C Ratio	-	-	0.622	0.622	-	-
HCM Control Delay (s)	0	-	20.1	20.1	-	-
HCM Lane LOS	A		C	C		
HCM 95th %tile Q(veh)	0	-	4.294	4.294	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	1.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	238	0	1655	232	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	243	0	1689	237	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	913	118	237	0	-	0
Stage 1	237	-	-	-	-	-
Stage 2	676	-	-	-	-	-
Follow-up Headway	3.67	3.32	2.22	-	-	-
Pot Capacity-1 Maneuver	306	912	1327	-	-	-
Stage 1	752	-	-	-	-	-
Stage 2	437	-	-	-	-	-
Time blocked-Platoon, %				-	-	-
Mov Capacity-1 Maneuver	306	912	1327	-	-	-
Mov Capacity-2 Maneuver	306	-	-	-	-	-
Stage 1	752	-	-	-	-	-
Stage 2	437	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.6	0	0
HCM LOS	A		

Minor Lane / Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1327	-	912	912	-	-
HCM Lane V/C Ratio	-	-	0.133	0.133	-	-
HCM Control Delay (s)	0	-	9.6	9.6	-	-
HCM Lane LOS	A		A	A		
HCM 95th %tile Q(veh)	0	-	0.459	0.459	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	4.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	575	0	595	739	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	587	0	607	754	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	997	377	754	0	-	0
Stage 1	754	-	-	-	-	-
Stage 2	243	-	-	-	-	-
Follow-up Headway	3.67	3.32	2.22	-	-	-
Pot Capacity-1 Maneuver	274	621	852	-	-	-
Stage 1	414	-	-	-	-	-
Stage 2	737	-	-	-	-	-
Time blocked-Platoon, %				-	-	-
Mov Capacity-1 Maneuver	274	621	852	-	-	-
Mov Capacity-2 Maneuver	274	-	-	-	-	-
Stage 1	414	-	-	-	-	-
Stage 2	737	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15.9	0	0
HCM LOS	C		

Minor Lane / Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	852	-	621	621	-	-
HCM Lane V/C Ratio	-	-	0.472	0.472	-	-
HCM Control Delay (s)	0	-	15.9	15.9	-	-
HCM Lane LOS	A		C	C		
HCM 95th %tile Q(veh)	0	-	2.53	2.53	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	1.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	294	0	1528	283	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	300	0	1559	289	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	913	144	289	0	-	0
Stage 1	289	-	-	-	-	-
Stage 2	624	-	-	-	-	-
Follow-up Headway	3.67	3.32	2.22	-	-	-
Pot Capacity-1 Maneuver	306	877	1270	-	-	-
Stage 1	709	-	-	-	-	-
Stage 2	465	-	-	-	-	-
Time blocked-Platoon, %				-	-	-
Mov Capacity-1 Maneuver	306	877	1270	-	-	-
Mov Capacity-2 Maneuver	306	-	-	-	-	-
Stage 1	709	-	-	-	-	-
Stage 2	465	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10	0	0
HCM LOS	B		

Minor Lane / Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1270	-	877	877	-	-
HCM Lane V/C Ratio	-	-	0.171	0.171	-	-
HCM Control Delay (s)	0	-	10	10	-	-
HCM Lane LOS	A		B	B		
HCM 95th %tile Q(veh)	0	-	0.615	0.615	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	5.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	670	0	612	758	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	684	0	624	773	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1023	387	773	0	-	0
Stage 1	773	-	-	-	-	-
Stage 2	250	-	-	-	-	-
Follow-up Headway	3.67	3.32	2.22	-	-	-
Pot Capacity-1 Maneuver	264	# 611	838	-	-	-
Stage 1	405	-	-	-	-	-
Stage 2	731	-	-	-	-	-
Time blocked-Platoon, %				-	-	-
Mov Capacity-1 Maneuver	264	# 611	838	-	-	-
Mov Capacity-2 Maneuver	264	-	-	-	-	-
Stage 1	405	-	-	-	-	-
Stage 2	731	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	18.1	0	0
HCM LOS	C		

Minor Lane / Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	838	-	611	611	-	-
HCM Lane V/C Ratio	-	-	0.559	0.559	-	-
HCM Control Delay (s)	0	-	18.1	18.1	-	-
HCM Lane LOS	A		C	C		
HCM 95th %tile Q(veh)	0	-	3.455	3.455	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	1.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	337	0	1665	292	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	344	0	1699	298	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	978	149	298	0	-	0
Stage 1	298	-	-	-	-	-
Stage 2	680	-	-	-	-	-
Follow-up Headway	3.67	3.32	2.22	-	-	-
Pot Capacity-1 Maneuver	281	871	1260	-	-	-
Stage 1	701	-	-	-	-	-
Stage 2	435	-	-	-	-	-
Time blocked-Platoon, %				-	-	-
Mov Capacity-1 Maneuver	281	871	1260	-	-	-
Mov Capacity-2 Maneuver	281	-	-	-	-	-
Stage 1	701	-	-	-	-	-
Stage 2	435	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.1	0	0
HCM LOS	B		

Minor Lane / Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1260	-	871	871	-	-
HCM Lane V/C Ratio	-	-	0.197	0.197	-	-
HCM Control Delay (s)	0	-	10.1	10.1	-	-
HCM Lane LOS	A		B	B		
HCM 95th %tile Q(veh)	0	-	0.732	0.732	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	5.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	652	0	609	754	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	665	0	621	769	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1018	385	769	0	-	0
Stage 1	769	-	-	-	-	-
Stage 2	249	-	-	-	-	-
Follow-up Headway	3.67	3.32	2.22	-	-	-
Pot Capacity-1 Maneuver	266	# 613	841	-	-	-
Stage 1	406	-	-	-	-	-
Stage 2	731	-	-	-	-	-
Time blocked-Platoon, %				-	-	-
Mov Capacity-1 Maneuver	266	# 613	841	-	-	-
Mov Capacity-2 Maneuver	266	-	-	-	-	-
Stage 1	406	-	-	-	-	-
Stage 2	731	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	17.6	0	0
HCM LOS	C		

Minor Lane / Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	841	-	613	613	-	-
HCM Lane V/C Ratio	-	-	0.543	0.543	-	-
HCM Control Delay (s)	0	-	17.6	17.6	-	-
HCM Lane LOS	A		C	C		
HCM 95th %tile Q(veh)	0	-	3.257	3.257	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	1.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	329	0	1640	290	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	336	0	1673	296	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	965	148	296	0	-	0
Stage 1	296	-	-	-	-	-
Stage 2	669	-	-	-	-	-
Follow-up Headway	3.67	3.32	2.22	-	-	-
Pot Capacity-1 Maneuver	286	872	1262	-	-	-
Stage 1	703	-	-	-	-	-
Stage 2	440	-	-	-	-	-
Time blocked-Platoon, %				-	-	-
Mov Capacity-1 Maneuver	286	872	1262	-	-	-
Mov Capacity-2 Maneuver	286	-	-	-	-	-
Stage 1	703	-	-	-	-	-
Stage 2	440	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.1	0	0
HCM LOS	B		

Minor Lane / Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1262	-	872	872	-	-
HCM Lane V/C Ratio	-	-	0.192	0.192	-	-
HCM Control Delay (s)	0	-	10.1	10.1	-	-
HCM Lane LOS	A		B	B		
HCM 95th %tile Q(veh)	0	-	0.709	0.709	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	7.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	785	0	633	781	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	801	0	646	797	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1055	398	797	0	-	0
Stage 1	797	-	-	-	-	-
Stage 2	258	-	-	-	-	-
Follow-up Headway	3.67	3.32	2.22	-	-	-
Pot Capacity-1 Maneuver	253	# 601	821	-	-	-
Stage 1	393	-	-	-	-	-
Stage 2	724	-	-	-	-	-
Time blocked-Platoon, %				-	-	-
Mov Capacity-1 Maneuver	253	# 601	821	-	-	-
Mov Capacity-2 Maneuver	253	-	-	-	-	-
Stage 1	393	-	-	-	-	-
Stage 2	724	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	22.1	0	0
HCM LOS	C		

Minor Lane / Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	821	-	601	601	-	-
HCM Lane V/C Ratio	-	-	0.666	0.666	-	-
HCM Control Delay (s)	0	-	22.1	22.1	-	-
HCM Lane LOS	A		C	C		
HCM 95th %tile Q(veh)	0	-	4.997	4.997	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	1.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	392	0	1832	303	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	400	0	1869	309	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1057	155	309	0	-	0
Stage 1	309	-	-	-	-	-
Stage 2	748	-	-	-	-	-
Follow-up Headway	3.67	3.32	2.22	-	-	-
Pot Capacity-1 Maneuver	253	863	1248	-	-	-
Stage 1	693	-	-	-	-	-
Stage 2	400	-	-	-	-	-
Time blocked-Platoon, %				-	-	-
Mov Capacity-1 Maneuver	253	863	1248	-	-	-
Mov Capacity-2 Maneuver	253	-	-	-	-	-
Stage 1	693	-	-	-	-	-
Stage 2	400	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.4	0	0
HCM LOS	B		

Minor Lane / Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1248	-	863	863	-	-
HCM Lane V/C Ratio	-	-	0.232	0.232	-	-
HCM Control Delay (s)	0	-	10.4	10.4	-	-
HCM Lane LOS	A		B	B		
HCM 95th %tile Q(veh)	0	-	0.895	0.895	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	7.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	750	0	627	774	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	765	0	640	790	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1046	395	790	0	-	0
Stage 1	790	-	-	-	-	-
Stage 2	256	-	-	-	-	-
Follow-up Headway	3.67	3.32	2.22	-	-	-
Pot Capacity-1 Maneuver	257	# 604	826	-	-	-
Stage 1	397	-	-	-	-	-
Stage 2	725	-	-	-	-	-
Time blocked-Platoon, %				-	-	-
Mov Capacity-1 Maneuver	257	# 604	826	-	-	-
Mov Capacity-2 Maneuver	257	-	-	-	-	-
Stage 1	397	-	-	-	-	-
Stage 2	725	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	20.7	0	0
HCM LOS	C		

Minor Lane / Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	826	-	604	604	-	-
HCM Lane V/C Ratio	-	-	0.634	0.634	-	-
HCM Control Delay (s)	0	-	20.7	20.7	-	-
HCM Lane LOS	A		C	C		
HCM 95th %tile Q(veh)	0	-	4.466	4.466	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	1.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	376	0	1782	300	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	384	0	1818	306	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1033	153	306	0	-	0
Stage 1	306	-	-	-	-	-
Stage 2	727	-	-	-	-	-
Follow-up Headway	3.67	3.32	2.22	-	-	-
Pot Capacity-1 Maneuver	261	866	1252	-	-	-
Stage 1	695	-	-	-	-	-
Stage 2	410	-	-	-	-	-
Time blocked-Platoon, %				-	-	-
Mov Capacity-1 Maneuver	261	866	1252	-	-	-
Mov Capacity-2 Maneuver	261	-	-	-	-	-
Stage 1	695	-	-	-	-	-
Stage 2	410	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.3	0	0
HCM LOS	B		

Minor Lane / Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1252	-	866	866	-	-
HCM Lane V/C Ratio	-	-	0.222	0.222	-	-
HCM Control Delay (s)	0	-	10.3	10.3	-	-
HCM Lane LOS	A		B	B		
HCM 95th %tile Q(veh)	0	-	0.845	0.845	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	11.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	901	0	654	804	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	919	0	667	820	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1087	410	820	0	-	0
Stage 1	820	-	-	-	-	-
Stage 2	267	-	-	-	-	-
Follow-up Headway	3.67	3.32	2.22	-	-	-
Pot Capacity-1 Maneuver	243	# 591	805	-	-	-
Stage 1	383	-	-	-	-	-
Stage 2	716	-	-	-	-	-
Time blocked-Platoon, %				-	-	-
Mov Capacity-1 Maneuver	243	# 591	805	-	-	-
Mov Capacity-2 Maneuver	243	-	-	-	-	-
Stage 1	383	-	-	-	-	-
Stage 2	716	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	29.2	0	0
HCM LOS	D		

Minor Lane / Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	805	-	591	591	-	-
HCM Lane V/C Ratio	-	-	0.778	0.778	-	-
HCM Control Delay (s)	0	-	29.2	29.2	-	-
HCM Lane LOS	A		D	D		
HCM 95th %tile Q(veh)	0	-	7.277	7.277	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	1.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	445	0	1999	313	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	454	0	2040	319	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1135	160	319	0	-	0
Stage 1	319	-	-	-	-	-
Stage 2	816	-	-	-	-	-
Follow-up Headway	3.67	3.32	2.22	-	-	-
Pot Capacity-1 Maneuver	228	857	1238	-	-	-
Stage 1	685	-	-	-	-	-
Stage 2	367	-	-	-	-	-
Time blocked-Platoon, %				-	-	-
Mov Capacity-1 Maneuver	228	857	1238	-	-	-
Mov Capacity-2 Maneuver	228	-	-	-	-	-
Stage 1	685	-	-	-	-	-
Stage 2	367	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.7	0	0
HCM LOS	B		

Minor Lane / Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1238	-	857	857	-	-
HCM Lane V/C Ratio	-	-	0.265	0.265	-	-
HCM Control Delay (s)	0	-	10.7	10.7	-	-
HCM Lane LOS	A		B	B		
HCM 95th %tile Q(veh)	0	-	1.067	1.067	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	9.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	849	0	644	794	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	866	0	657	810	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1073	405	810	0	-	0
Stage 1	810	-	-	-	-	-
Stage 2	263	-	-	-	-	-
Follow-up Headway	3.67	3.32	2.22	-	-	-
Pot Capacity-1 Maneuver	247	# 595	812	-	-	-
Stage 1	387	-	-	-	-	-
Stage 2	719	-	-	-	-	-
Time blocked-Platoon, %				-	-	-
Mov Capacity-1 Maneuver	247	# 595	812	-	-	-
Mov Capacity-2 Maneuver	247	-	-	-	-	-
Stage 1	387	-	-	-	-	-
Stage 2	719	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	25.5	0	0
HCM LOS	D		

Minor Lane / Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	812	-	595	595	-	-
HCM Lane V/C Ratio	-	-	0.728	0.728	-	-
HCM Control Delay (s)	0	-	25.5	25.5	-	-
HCM Lane LOS	A		D	D		
HCM 95th %tile Q(veh)	0	-	6.156	6.156	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection	
Intersection Delay, s/veh	1.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	0	421	0	1924	308	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	430	0	1963	314	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1099	157	314	0	-	0
Stage 1	314	-	-	-	-	-
Stage 2	785	-	-	-	-	-
Follow-up Headway	3.67	3.32	2.22	-	-	-
Pot Capacity-1 Maneuver	239	861	1243	-	-	-
Stage 1	689	-	-	-	-	-
Stage 2	382	-	-	-	-	-
Time blocked-Platoon, %				-	-	-
Mov Capacity-1 Maneuver	239	861	1243	-	-	-
Mov Capacity-2 Maneuver	239	-	-	-	-	-
Stage 1	689	-	-	-	-	-
Stage 2	382	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.6	0	0
HCM LOS	B		

Minor Lane / Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1243	-	861	861	-	-
HCM Lane V/C Ratio	-	-	0.249	0.249	-	-
HCM Control Delay (s)	0	-	10.6	10.6	-	-
HCM Lane LOS	A		B	B		
HCM 95th %tile Q(veh)	0	-	0.985	0.985	-	-

Notes
~ : Volume Exceeds Capacity; $: Delay Exceeds 300 Seconds; Error : Computation Not Defined