One Water LA

environment LA SANITATION CITY OF LOS ANGELES

LA DWP

CITY OF LOS ANGELES FOUNDED 1781

ONE WATER LA 2040 PLAN

VOLUME 7

Implementation Strategy Supporting Documents

FINAL DRAFT | APRIL 2018

One Water LA

CITY OF LOS ANGELES

ONE WATER LA 2040 PLAN

VOLUME 7

Implementation Strategy Supporting Documents

FINAL DRAFT • APRIL 2018

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READER GUIDE

SUMMARY OF ONE WATER LA

The One Water LA 2040 Plan (Plan) takes a holistic and collaborative approach to consider all of the City's water resources from surface water, groundwater, potable water, wastewater, recycled water, dry-weather runoff, and stormwater as "One Water." The Plan also identifies multi-departmental and multi-agency integration opportunities to manage water in a more efficient, cost effective, and sustainable manner. The Plan represents the City's continued and improved commitment to proactively manage all its water resources and implement innovative solutions, driven by the Sustainable City pLAn. The Plan will help guide strategic decisions for integrated water projects, programs, and policies within the City.

PLAN ORGANIZATION

The One Water LA 2040 Plan consists of the following ten volumes:

- VOLUME 1 - Summary Report
- VOLUME 2 - Wastewater Facilities Plan
- VOLUME 3 - Stormwater & Urban Runoff Facilities Plan
- VOLUME 4 - LA River Flow Study
- VOLUME 5 - Integration Opportunities Analysis Details
- VOLUME 6 - Climate Risk & Resilience Assessment for Wastewater and Stormwater Infrastructure
- VOLUME 7 - Implementation Strategy Supporting Documents
- VOLUME 8 - Technical Support Materials
- VOLUME 9 - Stakeholder Engagement Materials
- VOLUME 10 - Programmatic Environmental Impact Report

The information presented in this Volume (Volume 7) includes a compilation of various Technical Memoranda (TMs) that were prepared and provide implementation strategy details on the following four topics: Institutional Framework, Regulations, Policies, and Funding. In addition, information presented in this volume is summarized and referenced in:

- Institutional framework in Chapter 2 of the Summary Report (Volume 1)
- Policy recommendations in Chapter 9 of the Summary Report (Volume 1)
- Regulatory framework discussion in the Wastewater Facilities Plan (Volume 2)
- Regulatory framework, as well as, current and potential future funding mechanisms in the Stormwater and Urban Runoff Facilities Plan (Volume 3)

VOLUME 7 OVERVIEW AND ORGANIZATION

An overview of information presented in this volume is listed by topic in the table below.

Disclaimer: It should be noted that the information presented in these TMs represent interim work products and may therefore include minor discrepancies with the information presented in the Summary Report (Volume 1). The information presented in Volume 1 supersedes information presented in this Volume.

Topic	TM No. and Name	Content Overview
Institutional Framework	TM 1.1 - Roles and Responsibilities	Describes the organizational structure and water-related tasks for each City department, Bureau, and regional agency involved in the One Water LA Plan. Identifies the functions, roles, and responsibilities of these agencies and entities, as well as that of the Consultant Team and One Water LA Group. Illustrates the current relationships and coordination efforts between City departments, Bureaus, and regional agencies.
Regulations	TM 2.2 - Expected Future Regulatory Conditions	Describes the expected future conditions by planning year 2040 based on the anticipated implementation of other long-term planning documents, anticipated regulatory changes, industry trends for water management, and climate change adaption measures.

Topic	TM No. and Name	Content Overview
Policies	TM 13.1 - Policies and Programs	Develops a set of recommended One Water LA Policies and Programs that help achieve the goals and objectives of One Water LA and support the Sustainable City pLAn. The policies that are presented were created to help the City reduce roadblocks, improve cost-effectiveness, and allow for more coordinated, collaborative, and timely implementation of water projects, programs, and management strategies identified in the One Water LA 2040 Plan. The TM describes the policy and program development process and the resulting recommended policies and programs.
Funding	TM 4.1 - Funding Opportunities	Provides a framework on how the City and other partners can consider funding projects and programs, as well as the associated potential advantages or challenges. Presents available funding opportunities, as well as potential restrictions or limitations for each. Provides direction of potential timing, sources, and partners and lays the groundwork of how cost-sharing allocations might fit in with potential funding strategies.
	TM 4.2 - Water Funding Tools	Assists in the evaluation of funding opportunities and provides an example of an approach to enhance City coordination related to seeking and managing grant funding opportunities. Provides recommendations that include potential near-term steps related to water funding.

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Final Draft:	2/8/2016
Final:	12/15/2017
Lead Author:	Troy Ezeh

CITY OF LOS ANGELES

TECHNICAL MEMORANDUM NO. 1.1
CITY'S ROLES AND RESPONSIBILITIES

FINAL
December 2017

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CITY OF LOS ANGELES

TECHNICAL MEMORANDUM
NO. 1.1
CITY'S ROLES AND RESPONSIBILITIES

TABLE OF CONTENTS

Page No.

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATIONS

Abbreviation	Description
BMPs	Best Management Practices
BOE	Los Angeles Bureau of Engineering
BSS	Bureau of Street Services
Caltrans	California Department of Transportation
City	City of Los Angeles
DCP	Department of City Planning
DCTWRP	Donald C. Tillman Water Reclamation Plant
DONE	Department of Neighborhood Empowerment
EPA	Environmental Protection Agency
GSD	General Services Department
HSR	high-speed rail
HWRP	Hyperion Water Reclamation Plant
IRP	integrated resources plan
LA Zoo	Los Angeles Zoo
LACDPW	Los Angeles County Department of Public Works
LACFCD	Los Angeles County Flood Control District
LACDPH	Los Angeles County Department of Public Health
LACSD	Los Angeles County Sanitation District
LADBS	Los Angeles Department of Building and Safety
LADOT	Los Angeles Department of Transportation
LADWP	Los Angeles Department of Water and Power
LAGWRP	Los Angeles-Glendale Water Reclamation Plant
LASAN	Los Angeles Sanitation
LAUSD	Los Angeles Unified School District
LAWA	Los Angeles World Airports
LEED	Leadership in Energy and Environmental Design
Metro	Metropolitan Transportation Authority
MWDSC	Metropolitan Water District of Southern California
NPDES	National Pollutant Discharge Elimination System
POLA	Port of Los Angeles
RAP	Los Angeles Department of Recreation and Parks
RWQCB	Regional Water Quality Control Board
SCAG	Southern California Association of Governments
SWRCB	State Water Resources Control Board
TIWRP	Terminal Island Water Reclamation Plant
TM	Technical Memorandum
USACE	U.S. Army Corps of Engineers
UWMP	Urban Water Management Plan
WBMWD	West Basin Municipal Water District
WRD	Water Replenishment District

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CITY'S ROLES AND RESPONSIBILITIES

1.0 INTRODUCTION

1.1 Background of One Water LA

The City of Los Angeles (City) recently embarked on the One Water LA 2040 Plan. This plan will provide a strategic vision and a collaborative approach for integrated water management. In 2006, the City completed and adopted its first integrated water resources plan (IRP). This plan was the start of a paradigm shift for the City and resulted in significant achievements. Since then, the water landscape in the City has changed with increased demands, new regulations, and threats of climate change.

In response to these changes and to help achieve water sustainability, the City initiated the One Water LA 2040 Plan. This plan builds upon the success of the Water IRP, which had a planning horizon to year 2020. The One Water LA 2040 Plan takes a holistic and collaborative approach, to consider all water resources from surface water, groundwater, potable water, wastewater, recycled water, dry-weather runoff, and stormwater as "One Water." The plan identifies multi-departmental and multi-agency integration opportunities to manage water in a more efficient, cost effective, and sustainable manner.

The One Water LA 2040 Plan represents the City's continued and improved commitment to proactively manage all its water resources and implement innovative solutions, driven by the Sustainable City pLAn. The Plan will guide the City with strategic decisions for water resource related projects, programs, and policies that will make Los Angeles a resilient and sustainable City.

1.2 Purpose of Task 1

The purpose of Task 1 is to describe the City's Existing Conditions and Current Water Integration Activities. This task will develop a current baseline of the City's existing conditions as well as current water resource-related activities with integration potential against which future integration strategies can be measured. Task 1 includes the following subtasks:

- Summarize and Illustrate City Department Roles and Responsibilities
- Identify and Summarize the City's Existing Water-Related Conditions
- Develop a Water Balance tool and "snapshot"
- Develop a Water-Related Project Summary

1.3 Objectives of Technical Memorandum No. 1.1

The Objectives of Technical Memorandum (TM) 1.1 are to accomplish the following:

- Illustrate the organizational structure and water-related tasks for each City department, Bureau, and regional agency currently involved in the One Water LA Plan.
- Identify the functions, roles, and responsibilities of City departments, Bureaus, and regional agencies currently involved in the One Water LA Plan.
- Illustrate the current relationships and coordination efforts between City departments, Bureaus, and regional agencies.
- Identify the roles and responsibilities of the Consultant Team and the One Water LA Group.

2.0 ORGANIZATIONAL STRUCTURE

2.1 City Departments & Bureaus

The organizational structure of the City's 14 Departments and Bureaus currently involved in the One Water LA Plan is shown on Figure 1. Divisions within each City department and Bureau in addition to Division activities relevant to the One Water LA effort are also shown.

Los Angeles Sanitation (LASAN)

- Wastewater Engineering Service Division
  - One Water LA Plan, Recycled Water Data Reporting, Wastewater Collection System Planning
- Watershed Protection Division
  - Stormwater Management: Total Maximum Daily Loads, Enhanced Watershed Management Program Plans, Green Infrastructure, Flood Management, Prop O.
- Regulatory Affairs Division
  - Stormwater Quality Permit Compliance,
  - National Pollutant Discharge Elimination System (NPDES) Compliance,
  - Climate Change Studies
- Hyperion Water Reclamation Plant (HWRP)
  - Plant Expansion and Upgrades
  - Recycled Water Reclamation Plant
- Los Angeles-Glendale Water Reclamation Plant (LAGWRP)
  - Recycled Water Projects
- Donald C. Tillman Water Reclamation Plant (DCTWRP)
  - Recycled Water Projects

One Water LA

LADWP
Los Angeles Department of Water and Power

WATER RESOURCES DIVISION
-Water Resource Development
- Water Recycling Policy
-Water Conservation
-Watershed Management
-Water Rights & Resources Management

WATER ENGINEERING AND TECHNICAL SERVICES
- Water Recycling Planning
- Recycled Water Projects

BOE
Los Angeles Bureau of Engineering

CONSTRUCTION MANAGEMENT DIVISION
- Sustainable Design

PROP O CLEAN WATER DIVISION
- Prop O Projects

STREET IMPROVEMENT & STORMWATER DIVISION
- Street Improvement
-Sidewalk Repair
-Flood Control
-Landscape Design

ENVIRONMENTAL ENGINEERING DIVISION
- Water Reclamation Plants

WASTEWATER CONVEYANCE ENGINEERING DIVISION
- Design of the wastewater collection system as planned by LASAN

WASTEWATER CONVEYANCE CONSTRUCTION DIVISION
- Construction management of the City's sewage collection and conveyance systems

SIDEWALK DIVISION
- City's Sidewalk Repair Program

BSS
Los Angeles Bureau of Street Services

DESIGN/BUILD DIVISION - STREETSCAPE SECTION
- Landscape Design/Guidelines
-Tree & Plant Lists
-Capital Improvements
- Landscape Permit Review

RESURFACING AND RECONSTRUCTION DIVISION
-Street Resurfacing and Reconstruction

STREET MAINTENANCE DIVISION
- Street Maintenance

URBAN FORESTRY DIVISION
- Tree List
- Tree Permit Review
- Landscape Maintenance

DCP
Los Angeles Department of City Planning

CITYWIDE PLANNING DIVISION
- Complete Street Design Guide
- Quimby Ordinance

CODE STUDIES DIVISION
- Re:Code LA
-Clean Up Green Up

ENVIRONMENTAL ANALYSIS AND REVIEW DIVISION
- Water Mitigation Measures

LASAN
Los Angeles Bureau of Sanitation

WASTEWATER ENGINEERING SERVICES DIVISION
- One Water LA Plan
- Recycled Water Data Reporting
- Wastewater Collection System Planning

WATERSHED PROTECTION DIVISION
- Stormwater Management, Pollution Abatement, and Flood Control

WASTEWATER COLLECTION SYSTEMS DIVISION
- Wastewater and Stormwater Collection System Operation and Maintenance

INDUSTRIAL WASTE MANAGEMENT DIVISION
- Brine and Discharge Management
- Privately-owned Onsite Treatment Plants
- Pretreatment and Source Control

REGULATORY AFFAIRS DIVISION
- Stormwater Quality Permit Compliance
- National Pollutant Discharge Elimination System Permit Compliance
-Climate Change Studies

HYPERION WATER RECLAMATION PLANT
- Plant Expansion and Upgrades
- Produce Recycled Water

LA GLENDALE WATER RECLAMATION PLANT
- Produce Recycled Water

DONALD C. TILLMAN WATER RECLAMATION PLANT
- Produce Recycled Water

TERMINAL ISLAND WATER RECLAMATION PLANT
- Produce Recycled Water

DONE
Department of Neighborhood Empowerment

NEIGHBORHOOD COUNCIL ELECTIONS DIVISION
- Community Outreach Strategies

GSD
Los Angeles General Services Division

BUILDING MAINTENANCE DIVISION
- Building Upgrades
-Recycled Water Evaluations
-Turf Replacement
-Green Building Retrofit Program

LA ZOO
Los Angeles Zoo

PLANNING AND DEVELOPMENT DIVISION
- Low Impact Development
-Recycled Water Use

CONSTRUCTION DIVISION
- Parking Lot Projects

LADBS
Los Angeles Department of Building and Safety

GREEN BUILDING SERVICES DIVISION
- Water Efficient Fixtures

CODE ENFORCEMENT SERVICES DIVISION
- Recycled Water in Concrete
-Low Impact Development Compliance

PLAN CHECK DIVISION
- Graywater Permits

LADOT
Los Angeles Department of Transportation

PLANNING AND LAND USE REVIEW DIVISION
- Community Plan Updates
-Complete Streets Design Guide

HIGHWAYS DIVISION
- Street Designs
-Safe-Routes-to-School
-Street Widening
-Grants

LAWA
Los Angeles World Airports

ENVIRONMENTAL AND LAND USE PLANNING DIVISION
- Low Impact Development Projects
-Parking Lot Projects

PLANNING AND ENGINEERING DIVISION
- Pilot Porous Pavement Projects
-Recycled Water for Concrete Production
- Recycled Water Projects

MAYOR'S OFFICE OF CITY SERVICES

LARIVERWORKS
- Los Angeles River Revitalization
-Ecosystem Restoration

POLA
Port of Los Angeles

PORT ENGINEERING DIVISION
- Recycled Water Use
-Low Impact Development
-Climate Change Studies

RAP
Los Angeles Recreation and Parks Department

CAPITAL PROJECTS, PLANNING, CONSTRUCTION AND MAINTENANCE DIVISION
- Pedestrian Enhancement
-Turf Removal
-Low Impact Development
-Stormwater Capture
- Recycled Water Projects

Figure 1 - Organizational Structure of City Departments and Bureaus

One Water LA 2040 Plan
TM 1.1 - City's Roles and Responsibilities

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- Terminal Island Water Reclamation Plant (TIWRP)
  - Recycled Water Projects
- Wastewater Collection Systems Division
  - Wastewater and Stormwater Collection System Operation and Maintenance
- Industrial Waste Management Division
  - Brine and Discharge Management
  - Privately-owned Onsite Treatment Plants

Bureau of Engineering (BOE)

- Construction Management Division
  - Sustainable Design
- LARiverWorks
  - Los Angeles River Revitalization, Ecosystem Restoration
- Prop O Clean Water Division
  - Prop O Projects
- Street Improvement & Stormwater Division
  - Street Improvement, Sidewalk Repair Program, Flood Control, Landscape Design
- Environmental Engineering Division
  - Wastewater Treatment Plants

Los Angeles Department of Building and Safety (LADBS)

- Green Building Services Division
  - Water Efficient Fixtures
- Code Enforcement Services Division
  - Recycled Water in Concrete, Low Impact Development Compliance
- Plan Check Division
  - Graywater Permits

Bureau of Street Services (BSS)

- Landscape Division
  - Landscape Design, tree, and plant lists, recycled water for street tree watering.
- Resurfacing and Reconstruction Division
  - Streetscape, Resurfacing

- Special Projects Division
  - Sidewalk Repair Program
- Street Maintenance Division

Department of City Planning (DCP)

- Citywide Planning Division
  - Complete Streets Design Guide QUIMBY Ordinance
- Code Studies Division
  - Re:Code LA, Clean Up Green Up
- Environmental Analysis and Review Division
  - Water Mitigation Measures

Los Angeles Department of Transportation (LADOT)

- Planning and Land Use Review Division
  - Community Plan updates, Long Range Planning, Policies and Programs, Complete Streets Design Guide (Mobility Element)
- Highways Division
  - Streets Designs, Construction, Grant Administration, Safe-Routes-to School, Active Transportation Projects

Department of Recreation and Parks (RAP)

- Capital Projects, Planning, Construction and Maintenance Division
  - Pedestrian Enhancement, Turf Removal Projects, Low Impact Development, Recycled Water Use in Parks & Golf Courses, Stormwater Capture Projects

General Services Department (GSD)

- Building Maintenance Division
  - Building Upgrades, Civic Center & Sustainability, Recycled Water Evaluations, Turf Replacement, Green Building Retrofit Program.

Port of Los Angeles (POLA)

- Port Engineering Division
  - Recycled Water Use, Stormwater Capture, Climate Change Studies

Los Angeles World Airports (LAWA)

- Environmental and Land Use Planning Division
  - Westside Park, LAX Low Impact Development Projects, Parking Lot Projects
- Planning & Engineering Division
  - Administration Building West Pilot Porous Pavement Recycled Water for Concrete Production.

Los Angeles Department of Water and Power (LADWP)

- Water Resources Division
  - Water Recycling Policy, Water Conservation, Watershed Management, Water Rights & Resources Management, Resource Development.
- Water Engineering and Technical Services Division
  - Water Recycling Planning.

Los Angeles Zoo (LA Zoo)

- Planning and Development Division
  - Low Impact Development, Recycled Water Use
- Construction Division
  - Parking Lot Projects

Department of Neighborhood Empowerment

- Neighborhood Council Elections Division
  - Community Outreach Strategies

2.2 Regional Agencies

The 10 regional agencies currently involved in the One Water LA Plan are shown on Figure 2. Divisions within each regional agency and some of their key water-related activities relevant to the One Water LA effort are also shown.

REGIONAL AGENCIES

- U.S. Army Corps of Engineers
- Caltrans
- High Speed Rail
- LA County Department of Public Works
- LA County Flood Control District
- LA County Sanitation Districts
- Los Angeles Unified School District
- Metropolitan Transportation Authority
- Metropolitan Water District of Southern California
- Southern California Association of Governements
- 29 Contracting Agencies

California Department of Transportation (Caltrans)

- Landscape Architecture: District 7
  - Corridor Study for Stormwater Capture Opportunities, Recycled Water Use in Right-Of-Way, Model Water Ordinance Standards,

High-Speed Rail (HSR)

- Southern California Regional Director/Stakeholder Outreach Division
  - Water Conservation Policy, Tree Planting Program, Recycled Water for Landscaping, Stormwater Capture at High-Speed Rail Stations

Los Angeles County Department of Public Works (LACDPW)

- Watershed Management Division
  - Stormwater Quality, Watersheds
- Water Resources Division
  - Integrated Regional Water Management, Water Resources Integration.
- Flood Maintenance Division
  - Supports Los Angeles County Flood Control District activities

Los Angeles County Flood Control District (LACFCD)

- Dams & Reservoirs, Seawater Barriers, Sediment Removal Projects, Soft Bottom Channel Clearing, Spreading Grounds

Los Angeles County Sanitation Districts (LACSD)

- Engineering Division
  - Sewer Design, Wastewater & Solid Waste Design
- Technical Services Division
  - Wastewater Research, Water Quality, Environmental Health, and Safety.
- Wastewater Management Division
  - Joint Water Pollution Control Plant, Water Reclamation Plants, Wastewater Collection Systems

Los Angeles Unified School District (LAUSD)

- Facilities Services Division/Maintenance & Operations
  - Modernization Program, Critical Repair Program, Drought Response Outreach Program for Schools/Prop 84, Memorandum of Understanding Retrofit of Water Fixtures, Enhanced Watershed Management Program Collaboration
- Facilities Services Division/Asset Management
  - Leasing and Space Utilization, Planning and Design Management, Real Estate.

One Water LA

CALTRANS
California Department of Transportation

LANDSCAPE ARCHITECT: DISTRICT 7
- Model Water Ordinance Standards
- Recycled Water Use in Right-of-Way
-Stormwater Capture Corridor Study

HSR
High-Speed Rail Authority

SOUTHERN CALIFORNIA REGIONAL DIRECTOR/ STAKEHOLDER OUTREACH DIVISION
- Water Conservation Policy
-Tree Planting Program
-Recycled Water Projects
-Stormwater Capture

LACDPW
Los Angeles County Department of Public Works

WATER RESOURCES CORE SERVICE AREA
-Stormwater Planning
-Stormwater Compliance
-Stormwater Engineering
-Stormwater Maintenance
-Waterworks

DEVELOPMENT SERVICES & EMERGENCY MANAGEMENT CORE SERVICE AREA
-Sewer Maintenance

ENVIRONMENTAL SERVICES CORE SERVICE AREA
-Environmental Programs
-Strategic Planning & Sustainability

LACSD
Sanitation District of Los Angeles County

ENGINEERING DIVISION
- Sewer Design
-Wastewater and Solid Waste Design

TECHNICAL SERVICES DIVISION
- Wastewater Research
-Water Quality
-Environmental Health and Safety

WASTEWATER MANAGEMENT DIVISION
- Joint Water Pollution Control Plant
-Water Reclamation Plants
-Wastewater Collection Systems

LAUSD
Los Angeles Unified School District

FACILITIES SERVICES DIVISION/ MAINTENANCE & OPERATIONS
- Modernization Program
-Critical Repair Program
-Drought Response Outreach Program for Schools
-Stormwater Capture
-Recycled Water Projects

FACILITIES SERVICES DIVISION/ ASSET MANAGEMENT
- Leasing and Space Utilization
-Planning and Design Management
-Real Estate

LACFCD
Los Angeles County Flood Control District

-Stormwater Planning
-Stormwater Engineering
-Stormwater Maintenance

METRO
Los Angeles County Metropolitan Transportation Authority

ENVIRONMENTAL COMPLIANCE SERVICES DIVISION
- Water Action Plan
-Union Station Master Plan
-Save the Drop Campaign
-Dewatering Projects
-Stormwater Capture
-Recycled Water Projects

MWD
Metropolitan Water District

RESOURCE PLANNING & DEVELOPMENT SECTION
- Regional Recycled Water Program

SCAG
Southern California Association of Governments

ACTIVE TRANSPORTATION AND SPECIAL PROGRAMS
- Population Projections
-Greenhouse Gas Reduction Projects
-Stormwater Capture

USACE
United States Army Corps of Engineers

SOUTH PACIFIC DIVISION: LA DISTRICT
- Navigation
-Flood Risk Management
-Ecosystem Restoration
-Disaster Response

Figure 2 - Regional Agencies

One Water LA 2040 Plan

TM 1.1 - City's Roles and Responsibilities

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Metropolitan Transportation Authority (Metro)

- Environmental Compliance Services Division
  - Water Action Plan, Union Station Master Plan, Save the Drop Campaign, Dewatering Projects, Enhanced Watershed Management Program Collaboration

Metropolitan Water District of Southern California (MWD)

- Resource Planning & Development Section
  - Regional Recycled Water Program

Southern California Association of Governments (SCAG)

- Active Transportation and Special Programs
  - Population Projections, Greenhouse Gas Reduction Projects, Stormwater Capture Projects

United States Army Corps of Engineers (USACE)

- South Pacific Division: Los Angeles District
  - Navigation, Flood Risk Management, Ecosystem Restoration, Disaster Response

In addition to the ten regional agencies listed above, there are other water agencies and regulatory agencies that are likely to be engaged in during the implementation of the One Water program recommendations. Some of these agencies include, but are not limited to:

Other Regional Water Agencies

- West Basin Municipal Water District (WBMWD or West Basin)
  - Treatment of secondary effluent from Hyperion Water Reclamation Plant to tertiary and advanced water quality levels
  - Delivery of recycled water to City customers and neighboring agencies
  - Injection of recycled water in the West Coast and Dominguez Gap seawater intrusion barriers
- Water Replenishment District (WRD)
  - Water Master of Central and West Coast groundwater basins
  - Potential project partner for future potable reuse with groundwater augmentation

Regulatory Agencies

- Environmental Protection Agency (EPA)
  - Establishment and enforcement of safe drinking water standards
  - Oversight, review, and approval of federal water quality programs and policies
  - Management of Clean Water Act grant, wetland, and superfund programs
- Los Angeles Department of Public Health (LADPH)
  - Recycled water cross-connection program
  - Enforcement of regulations of recreational water programs
  - Ensuring water availability requirements are met for to provide adequate and sustainable potable supplies
- Los Angeles Regional Water Quality Control Board (RWQCB)
  - Approve permits and enforcement by basin in Los Angeles and Ventura counties, as well as small portions of Kern and Santa Barbara counties)
  - Prepare Basins Plans to preserve and enhance water quality and protect the beneficial uses of all regional waters
  - Increase the use of recycled water in a manner that implements state and federal water quality laws
  - Development and approval of Salt and Nutrient Management Plans to facilitate basin-wide management of salts and nutrients from all sources to optimize recycled water use while ensuring protection of groundwater supply and beneficial uses, agricultural uses, and human health
- State Water Resources Control Board (SWRCB)
  - Protect water quality by setting statewide policy, as well as coordinating and supporting the RWQCB efforts
  - Regulate wastewater discharges to surface waters (rivers, ocean) and groundwater (via land)
  - Regulate stormwater discharges

3.0 FUNCTIONS, ROLES AND RESPONSIBILITIES

3.1 City Departments and Bureaus

This section identifies the vision, mission, roles, and responsibilities of City departments and Bureaus currently involved in the One Water LA Planning and implementation effort. Short-term water-related policies ("quick fixes") developed during Phase 1 specific to each City department and Bureau is also listed. Additionally, this section briefly describes the relationship between One Water LA and each City Department and Bureau. The roles and responsibilities of all City departments are summarized in Table 1.

Table 1	City Departments and Bureaus Roles and Responsibilities One Water LA 2040 Plan – TM 1.1	
#	Department/ Bureau	Role & Responsibility
1.	LASAN	• Lead/Participate in One Water LA Phase 2 Tasks 1-18. • Co-lead for One Water LA Steering Committee Meetings and Stakeholder Workshops. • Provide updates on water-related projects, policies, and programs. • Fiscal Agent for One Water LA Phase 2.
2.	LADWP	• Lead/Participate in One Water LA Phase 2 Tasks 1-18. • Co-lead One Water LA Steering Committee Meetings and Stakeholder Workshops. • Provide updates on water-related projects, water supply/demand data (historical/forecasts), policies and programs.
3.	BOE	• Provide updates on water-related projects, policies, and programs. • Participate in One Water LA Steering Committee Meetings and Stakeholder Workshops. • Participate in Task 3: Integration of Currently Planned Projects/Programs. • Participate in Task 7: Wastewater Facilities Plan. • Participate in Task 8: Stormwater & Urban Runoff Facilities Plan. • Participate in Tasks 11 & 12: Pilot and Special Studies.
4.	BSS	• Provide updates on water-related projects, policies, and programs. • Participate in One Water LA Steering Committee Meetings and Stakeholder Workshops. • Participate in Task 3: Integration of Currently Planned Projects/Programs.
5.	DCP	• Provide updates on water-related projects, policies, and programs. • Participate in One Water LA Steering Committee Meetings and Stakeholder Workshops. • Participate in Task 3: Integration of Currently Planned Projects/Programs.
6.	DONE	• Provide updates on water-related projects, policies, and programs. • Participate in One Water LA Steering Committee Meetings and Stakeholder Workshops. • Participate in Task 18: Public Outreach & Marketing Strategies.
7.	GSD	• Provide updates on water-related projects, policies, and programs. • Participate in One Water LA Steering Committee Meetings and Stakeholder Workshops. • Participate in Task 3: Integration of Currently Planned Projects/Programs.
8.	LADBS	• Provide updates on water-related projects, policies, and programs. • Participate in One Water LA Steering Committee Meetings and Stakeholder Workshops. • Participate in Task 3: Integration of Currently Planned Projects/Programs.

Table 1 City Departments and Bureaus Roles and Responsibilities One Water LA 2040 Plan – TM 1.1		
#	Department/ Bureau	Role & Responsibility
9.	LADOT	• Provide updates on water-related projects, policies, and programs. • Participate in One Water LA Steering Committee Meetings and Stakeholder Workshops. • Participate in Task 3: Integration of Currently Planned Projects/Programs.
10.	LARiverWorks	• Provide updates on water-related projects, policies, and programs. • Participate in One Water LA Steering Committee Meetings and Stakeholder Workshops. • Participate in Task 3: Integration of Currently Planned Projects/Programs. • Participate in Task 12: Special Studies.
11.	LAWA	• Provide updates on water-related projects, policies, and programs. • Participate in One Water LA Steering Committee Meetings and Stakeholder Workshops. • Participate in Task 3: Integration of Currently Planned Projects/Programs.
12.	LA Zoo	• Provide updates on water-related projects, policies, and programs. • Participate in One Water LA Steering Committee Meetings and Stakeholder Workshops. • Participate in Task 3: Integration of Currently Planned Projects/Programs.
13.	POLA	• Provide updates on water-related projects, policies, and programs. • Participate in One Water LA Steering Committee Meetings and Stakeholder Workshops. • Participate in Task 3: Integration of Currently Planned Projects/Programs. • Participate in Tasks 5 & 6: Integration Strategies & Cost Benefit Analysis. • Lead a City-wide department Climate Change Committee that would be an ADHOC Committee to One Water LA.
14.	RAP	• Provide updates on water-related projects, policies, and programs. • Participate in One Water LA Steering Committee Meetings and Stakeholder Workshops. • Participate in Task 3: Integration of Currently Planned Projects/Programs.

3.1.1 LASAN

Mission Statement: To protect public health and the environment.

Roles and Responsibilities:

- One Water LA Phase 2 Tasks 1-18.
- Fiscal Agent for One Water LA Phase 2
- Co-Lead for One Water LA Steering Committee Meetings and Stakeholder Workshops.
- Provide updates on water-related projects, policies, and programs.

LASAN Water-Related Policies Identified during Phase 1:

- Evaluate the use of recycled water (Title 22) for irrigation and recycled water and/or recirculation systems for all vehicle washes.
- Determine the possibility of utilizing recycled water from the HWRP.
- Evaluate the possibility of requiring drought tolerant plants and use of recycled/reclaimed water for irrigation for all new publicly owned and privately owned developments.
- Evaluate the feasibility of requiring "Green Street" elements (e.g., bio swales) to be incorporated into public right-of-way when public and private development projects trigger public works improvements.
- Consider expediting the design review of One Water LA related projects from other Departments.
- Work with HSR on low flow diversion of stormwater to the sanitary sewer along HSR alignments and at HSR facilities including stations.

One Water LA Relationship: LASAN shepherds the management of the City's One Water LA 2040 Plan. LASAN administers the City's Clean Water Program that is responsible for wastewater collection, conveyance, and treatment. Additionally, LASAN administers the Watershed Protection Program that focuses on flood control and pollution abatement related to stormwater.

3.1.2 LADWP

Mission Statement: To provide our customers with reliable, high quality, and competitively priced water services in a safe and publicly and environmentally responsible manner.

Roles and Responsibilities:

- Lead/Participate in One Water LA Phase 2 Tasks 1-18.
- Co-Lead for One Water LA Steering Committee Meetings and Stakeholder Workshops.
- Provide updates on water-related projects, water supply/ demand data (historical/forecasts), policies and programs.

LADWP Water-Related Policies Identified during Phase 1:

- Evaluate the use of recycled water (Title 22) for irrigation and recycled water and/or recirculation systems for all vehicle washes.
- Determine the possibility of utilizing recycled water from HWRP.
- Work with LA Sanitation, Department of Recreation and Parks, General Services Department, Los Angeles World Airports and the Port of LA to reuse water captured during the dewatering of LADWP Water System pipelines, tanks, and reservoirs that occur during repairs and new construction.
- For new public and private developments, evaluate the possibility of requiring California Friendly plants, use of recycled/reclaimed water for irrigation and maximizing stormwater capture.

One Water LA Relationship with LADWP: LADWP is a key partner with LASAN in shepherding the development of City's One Water LA 2040 Plan. LADWP prepares the Urban Water Management Plan (UWMP) in compliance with the California Urban Water Management Planning Act every 5 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 and stormwater capture, provide a summary of water conservation Best Management Practices (BMPs), and provide a single and multi-dry year management strategy. 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. Other citywide plans developed to support these efforts include the Recycled Water Master Planning documents and the Stormwater Capture Master Plan. Coordination with One Water LA will help to identify other potential local water resources development opportunities to further help improve the City's water supply reliability.

3.1.3 BOE

Vision Statement: To lead the transformation of Los Angeles into the world's most livable city.

Roles and Responsibilities:

- Provide updates on water-related projects, policies, and programs.
- Participate in One Water LA Steering Committee Meetings and Stakeholder Workshops.
- Participate in the following One Water LA planning tasks:
  - Task 3: Integration of Currently Planned Projects/Programs.
  - Task 7: Wastewater Facilities Plan.
  - Task 8: Stormwater & Urban Runoff Facilities Plan.
  - Tasks 11&12: Pilot and Special Studies.

BOE Water-Related Policies Identified during Phase 1:

- *C*onsider prioritizing Leadership in Energy and Environmental Design (LEED)/Envision points for water during preliminary design and construction of City Facilities.
- Ensure all projects incorporate stormwater capture and infiltration through the permitting process.
- Coordinate with LASAN and LADWP to identify opportunities for achieving One Water LA objectives and provide project management/construction management services where required.

One Water LA Relationship with BOE: BOE administers the City's Floodplain Management Plan and delivers the Wastewater Capital Improvement Program. BOE develops standard plans for stormwater capture BMPs and works closely with LASAN on the development of new green street standard plans. BOE also implements other sustainable capital projects throughout the City. One Water LA looks for opportunities to assist BOE in implementing strategies included in the Floodplain Management Plan in coordination with other Citywide Master Plans to improve watershed health.

3.1.4 BSS

Vision Statement: To be a world class organization committed to providing the most innovative street services while being instrumental in the development of a green and prosperous City of Los Angeles.

Mission Statement: The Bureau of Street Services is committed to providing quality street services in a timely and efficient manner.

Roles and Responsibilities:

- Provide updates on water-related projects, policies, and programs.
- Participate in One Water LA Steering Committee Meetings and Stakeholder Workshops.
- Participate in Task 3: Integration of Currently Planned Projects/Programs.

BSS Water-Related Policies Identified during Phase 1:

- Streamline the permit approval process for drought tolerant plants for all parkways and evaluate the possibility of requiring drought tolerant plants for all parkways.

One Water LA Relationship with BSS: BSS partners with the One Water LA to implement multi-benefit Green Street Projects that promote sustainable, low impact design and reduce street flooding and polluted runoff to rivers and the ocean. BSS partners with One Water LA to design parkways using "drought tolerant" plants to conserve water.

3.1.5 DCP

Mission Statement: To create and implement plans, policies and programs that realize a vision of Los Angeles as a collection of healthy and sustainable neighborhoods, each with a distinct sense of place, based on a foundation of mobility, economic viability and improved quality of life for all residents.

Roles and Responsibilities:

- Provide updates on water-related projects, policies, and programs.
- Participate in One Water LA Steering Committee Meetings and Stakeholder Workshops.
- Participate in Task 3: Integration of Currently Planned Projects/Programs.

DCP Water-Related Policies Identified during Phase 1:

- For all new private developments, evaluate the possibility of requiring drought tolerant plants and the use of recycled/reclaimed water for irrigation.
- Evaluate the possibility of requiring new projects to capture a greater percentage than required of their stormwater on-site.
- Evaluate and modify applicable codes as part of recode: LA and future efforts to align with all One Water LA objectives.

One Water LA Relationship with DCP: Through the City's comprehensive zoning code, DCP develops rules and regulations that are flexible to accommodate the City's diverse physical landscape and uses. DCP partners with One Water LA to ensure that policy directions regarding stormwater capture, drought tolerant plants, open space, and other standard water mitigation measures are included in provisions of the Zoning Code for homeowners and developers.

3.1.6 DONE

Roles and Responsibilities:

- Provide updates on water-related projects, policies, and programs.
- Participate in One Water LA Steering Committee Meetings and Stakeholder Workshops.
- Participate in Task 18: Public Outreach & Marketing Strategies.

DONE Water-Related Policies Identified during Phase 1:

- Work with LASAN to develop an outreach strategy for water sustainability for Neighborhood Councils.

One Water LA Relationship with DONE: Department of Neighborhood Empowerment (DONE) promotes public participation in government and works to improve government responsiveness to local concerns. DONE partners with One Water LA to increase public awareness and education for water resources issues.

3.1.7 GSD

Mission Statement: To provide City leadership in managing facilities, equipment, supplies, maintenance, and other support services to elected officials and City departments and residents in a safe, reliable, and efficient manner.

Roles and Responsibilities:

- Provide updates on water-related projects, policies, and programs.
- Participate in One Water LA Steering Committee Meetings and Stakeholder Workshops.
- Participate in Task 3: Integration of Currently Planned Projects/Programs.

GSD Water-Related Policies Identified during Phase 1:

- Explore non potable water or waterless options for cleaning roofs and other facility maintenance activities.
- Consider conservation efforts, including requiring water efficient irrigation and drought tolerant plants for new and existing City-owned buildings, where feasible.
- Continue the effort of installing separate meters for landscape water use and leak detection for City facilities where feasible.
- Follow-up with audits for City buildings under GSD purview.
- Consider developing a City Directive to require a facilities expert/manager to manage City-owned buildings.

One Water LA Relationship with GSD: GSD partners with One Water LA to increase the use of recycled water and stormwater capture at City-owned facilities and other surplus properties.

3.1.8 LADBS

Mission Statement: To protect the lives and safety of the residents and visitors of the City of Los Angeles and enhance the quality of life, housing, economic prosperity, and job creation citywide. Through a timely, cooperative, and transparent process, LADBS advises, guides, and assists customers to achieve compliance with the Building, Zoning, Plumbing, Mechanical, Electrical, Disabled Access, Energy, and Green codes and local and State laws to build safe, well, and fast.

Roles and Responsibilities:

- Provide updates on water-related projects, policies, and programs.
- Participate in One Water LA Steering Committee Meetings and Stakeholder Workshops.
- Participate in Task 3: Integration of Currently Planned Projects/Programs.

LADBS Water-Related Policies Identified during Phase 1:

- Draft policy language in collaboration with the Bureau of Engineering to instruct City departments to use recycled water for concrete mixing for construction projects where feasible.
- For all new public and private developments, evaluate the possibility of requiring drought tolerant plants and use of recycled/reclaimed water for irrigation.
- Evaluate tracking the installation of existing and future graywater systems where feasible.

One Water LA Relationship with LADBS: LADBS permits the installation of water appliances and fixtures for residential, multi-family, and commercial buildings in compliance with the Los Angeles Green Building Code. One Water LA partners with LADBS to assist property owners with the process involved in utilizing sustainable onsite technologies to help achieve water efficiency and water conservation on private property.

3.1.9 LADOT

Vision Statement: Los Angeles will have a transportation system that gives people choices to support a high quality of life and strong, healthy communities, as well as continued prosperity and resilience for the region.

Mission Statement: LADOT leads transportation planning, design, construction, maintenance, and operations in the City of Los Angeles. LADOT works together and

partners with other agencies to provide safe, accessible transportation services and infrastructure in the City and the region.

Roles and Responsibilities:

- Provide updates on water-related projects, policies, and programs.
- Participate in One Water LA Steering Committee Meetings and Stakeholder Workshops.
- Participate in Task 3: Integration of Currently Planned Projects/Programs.

LADOT Water-Related Policies Identified during Phase 1:

- Incorporate Green Street elements and other sustainable design options into LADOT's Capital Improvement Plans.
- Include water resource best management practices into future Joint Development Agreements involving City-owned off-street parking facilities.
- Expedite the design review of One Water LA related projects from other Departments.

One Water LA Relationship with LADOT: LADOT partners with One Water LA to improve transportation infrastructure in the City by implementing multi-benefit Green Street and Great Street projects that capture and infiltrate stormwater runoff.

3.1.10 LA River Works

Roles and Responsibilities:

- Provide updates on water-related projects, policies, and programs.
- Participate in One Water LA Steering Committee Meetings and Stakeholder Workshops.
- Participate in Task 3: Integration of Currently Planned Projects/Programs.
- Participate in Task 12: Special Studies.

LA River Works Office Water-Related Policies Identified during Phase 1:

- Cooperate with the Los Angeles Department of Water and Power, LA Sanitation, Department of Recreation and Parks and other departments and regional agencies as necessary to align watershed health and other water resource goals with LA River revitalization.

One Water LA Relationship with LA River Works: The LA River Works Office partners with One Water LA to determine the optimal approach to balancing the City's water supply needs with the needs of the LA River.

3.1.11 LAWA

Roles and Responsibilities:

- Provide updates on water-related projects, policies, and programs.
- Participate in One Water LA Steering Committee Meetings and Stakeholder Workshops.
- Participate in Task 3: Integration of Currently Planned Projects/Programs.

LAWA Water-Related Policies Identified during Phase 1:

- Evaluate the use of recycled water (Title 22) for irrigation and recycled water and/or recirculation systems for all vehicle washes.
- Continue to incorporate stormwater capture Best Management Practices where feasible including large parking lots.

One Water LA Relationship with LAWA: LAWA partners with One Water LA to explore recycled water use opportunities, increase drought tolerant landscape, and incorporate stormwater BMPs.

3.1.12 LA Zoo

Mission Statement: To serve the community, the Los Angeles Zoo will create an environment for recreation and discovery; inspire an appreciation of wildlife through exhibitory and education; ensure the highest level of animal welfare; and support programs that preserve biodiversity and conserve natural habitat.

Roles and Responsibilities:

- Provide updates on water-related projects, policies, and programs.
- Participate in One Water LA Steering Committee Meetings and Stakeholder Workshops.
- Participate in Task 3: Integration of Currently Planned Projects/Programs.

LA Zoo Water-Related Policies Identified during Phase 1:

- Work with LA Sanitation and the Los Angeles Department of Water and Power to maximize the use of recycled water for non-potable use within the Zoo property.
- Consider water efficient plant palettes in future exhibits and projects.
- Evaluate LA Zoo computer-controlled irrigation system and make modifications as necessary.
- Consider alternatives for recirculating water systems for specific animal exhibits.
- Coordinate with LA Sanitation and the Los Angeles Department of Water and Power to monitor and measure stormwater use onsite.

One Water LA Relationship with LA Zoo: LA Zoo partners with One Water LA to explore recycled water use and stormwater capture opportunities throughout the Zoo. LA Zoo also works with One Water LA to use drought tolerant plant palettes at animal exhibits to conserve water.

3.1.13 POLA

Roles and Responsibilities:

- Provide updates on water-related projects, policies, and programs.
- Participate in One Water LA Steering Committee Meetings and Stakeholder Workshops.
- Participate in Task 3: Integration of Currently Planned Projects/Programs.
- Participate in Tasks 5 & 6: Integration Strategies & Cost Benefit Analysis.
- Lead a City-wide department Climate Change Committee that would be an ADHOC Committee to One Water LA.

POLA Water-Related Policies Identified during Phase 1:

- Evaluate the use of recycled water (Title 22) for irrigation and recycled water and/or recirculation systems for all vehicle washes.
- Work with LA Sanitation to implement Best Management Practices for stormwater in construction or reconstruction projects.

One Water LA Relationship with POLA: POLA partners with One Water LA to identify recycled water use opportunities for facilities, parks, plazas, and open spaces to reduce potable water use.

3.1.14 RAP

Vision Statement: To provide affordable recreational, physical, and cultural opportunities for all of Los Angeles residents, with a focus on families, youth development and building healthy communities. The programs and services offered by the Department will provide excellent value and quality and emphasize the equitable distribution of resources throughout the City. We will offer these programs in safe, attractive, and well-maintained facilities that will reflect the public's needs and interests.

Mission Statement: To enrich the lives of the residents of Los Angeles by providing safe, welcoming parks and recreation facilities and affordable, diverse recreation and human services activities for people of all ages to play, learn, contemplate, build community and be good stewards of our environment.

Roles and Responsibilities:

- Provide updates on water-related projects, policies, and programs.
- Participate in One Water LA Steering Committee Meetings and Stakeholder Workshops.
- Participate in Task 3: Integration of Currently Planned Projects/Programs.

RAP Water-Related Policies Identified during Phase 1:

- Continue conservation efforts that include reducing the use of turf in new and retrofitted parks and increasing the use of recycled water.
- Continue operation and maintenance coordination with the General Services Department on conservation efforts.
- Maximize stormwater capture and use for irrigation of golf courses and parks.
- Work with LA Sanitation to evaluate low flow diversions to sewers for potential reclamation.

One Water LA Relationship with RAP: RAP maintains and operates over 400 sites for recreational use that include parks, public golf courses, and recreation centers. RAP partners with One Water LA to plan and implement projects that provide increased stormwater capture and recycled water use opportunities. RAP also replaces turf at City-owned parks and golf courses for water conservation.

3.2 Regional Agencies

This section identifies the vision, mission, roles, and responsibilities of Regional Agencies currently involved in the One Water LA Planning effort. Short-term water-related policies ("quick fixes") developed during Phase 1 specific to some Regional Agencies are also listed. The roles and responsibilities of these regional agencies are summarized in Table 2.

Table 2	Regional Agencies Roles and Responsibilities One Water LA 2040 Plan – TM 1.1	
#	**Agency**	**Role & Responsibility**
1.	CT	• Participate in One Water LA Steering Committee Meetings and Stakeholder Workshops. • Provide updates on water-related projects, policies, and programs. • Participate in Task 3: Integration of Currently Planned Projects/Programs.
2.	HSR	• Participate in One Water LA Steering Committee Meetings and Stakeholder Workshops. • Provide updates on water-related projects, policies, and programs. • Participate in Task 3: Integration of Currently Planned Projects/Programs. • Participate in Task 4: Funding Strategies.
3.	LACDPW	• Provide updates on water-related projects, policies, and programs. • Participate in One Water LA Steering Committee Meetings and Stakeholder Workshops. • Participate in Task 3: Integration of Currently Planned Projects/Programs. • Participate in Task 8: Stormwater and Urban Runoff Facilities Plan.
4.	LACFCD	• Provide updates on water-related projects, policies, and programs. • Participate in One Water LA Steering Committee Meetings and Stakeholder Workshops. • Participate in Task 3: Integration of Currently Planned Projects/Programs. • Participate in Task 8: Stormwater and Urban Runoff Facilities Plan.
5.	LACSD	• Provide updates on water-related projects, policies, and programs. • Participate in One Water LA Steering Committee Meetings and Stakeholder Workshops. • Participate in Task 3: Integration of Currently Planned Projects/Programs.
6.	LAUSD	• Provide updates on water-related projects, policies, and programs. • Participate in One Water LA Steering Committee Meetings and Stakeholder Workshops. • Participate in Task 3: Integration of Currently Planned Projects/Programs.

Table 2 Regional Agencies Roles and Responsibilities One Water LA 2040 Plan – TM 1.1		
#	**Agency**	**Role & Responsibility**
7.	Metro	• Provide updates on water-related projects, policies, and programs. • Participate in One Water LA Steering Committee Meetings and Stakeholder Workshops. • Participate in Task 3: Integration of Currently Planned Projects/Programs. • Participate in Task 4: Funding Strategies. • Participate in Task 18: Public Outreach & Marketing Strategies.
8.	MWDSC	• Provide updates on water-related projects, policies, and programs. • Participate in One Water LA Steering Committee Meetings and Stakeholder Workshops. • Participate in Task 3: Integration of Currently Planned Projects/Programs.
9.	SCAG	• Provide updates on water-related projects, policies, and programs. • Participate in One Water LA Steering Committee Meetings and Stakeholder Workshops. • Participate in Task 3: Integration of Currently Planned Projects/Programs.
10.	USACE	• Provide updates on water-related projects, policies, and programs. • Participate in One Water LA Steering Committee Meetings and Stakeholder Workshops. • Participate in Task 3: Integration of Currently Planned Projects/Programs.

3.2.1 CALTRANS

Vision Statement: A performance-driven, transparent, and accountable organization that values its people, resources and partners, and meets new challenges through leadership, innovation, and teamwork.

Mission Statement: To provide a safe, sustainable, integrated, and efficient transportation system to enhance California's economy and livability.

Roles and Responsibilities:

- Participate in One Water LA Steering Committee Meetings and Stakeholder Workshops.
- Provide updates on water-related projects, policies, and programs.
- Participate in Task 3: Integration of Currently Planned Projects/Programs.

Caltrans Water-Related Recommendation(s) Identified during Phase 1:

- Continue working with the LADWP and LASAN on stormwater and recycled water related efforts and implement stormwater and recycled water programs and projects for all approved uses in collaboration with LADWP and LASAN wherever feasible.

3.2.2 HSR

Roles and Responsibilities:

- Participate in One Water LA Steering Committee Meetings and Stakeholder Workshops.
- Provide updates on water-related projects, policies, and programs.
- Participate in Task 3: Integration of Currently Planned Projects/Programs.
- Participate in Task 4: Funding Strategies.

HSR Water-Related Recommendation(s) Identified during Phase 1:

- Consider using recycled water for all approved uses wherever feasible including for dust mitigation during construction, for landscaping, and at HSR stations and facilities.
- Work with LA Sanitation and the Los Angeles Department of Water and Power on stormwater capture, infiltration, and other conservation opportunities including updating drought tolerant plant palettes along HSR alignments and at HSR facilities, including stations.
- Work with LA Sanitation on low flow diversion of stormwater to the sanitary sewer along HSR alignments and at HSR facilities including stations.

3.2.3 LACDPW and LACFCD

Vision Statement: Creating communities…sustaining life.

Mission Statement: To provide public infrastructure and municipal services to protect and enrich the daily lives of over ten million people in Los Angeles County.

Roles and Responsibilities:

- Provide updates on water-related projects, policies, and programs.
- Participate in One Water LA Steering Committee Meetings and Stakeholder Workshops.
- Participate in Task 3: Integration of Currently Planned Projects/Programs.
- Participate in Task 8: Stormwater and Urban Runoff Facilities Plan.

3.2.4 LACSD

Mission Statement: To protect public health and the environment through innovative and cost-effective wastewater and solid waste management, and in doing so convert waste into resources such as recycled water, energy, and recycled materials.

Roles and Responsibilities:

- Provide updates on water-related projects, policies, and programs.
- Participate in One Water LA Steering Committee Meetings and Stakeholder Workshops.
- Participate in Task 3: Integration of Currently Planned Projects/Programs.

3.2.5 LAUSD

Roles and Responsibilities:

- Provide updates on water-related projects, policies, and programs.
- Participate in One Water LA Steering Committee Meetings and Stakeholder Workshops.
- Participate in Task 3: Integration of Currently Planned Projects/Programs.

LAUSD Water-Related Recommendations Identified during Phase 1:

- Evaluate where feasible the use of recycled water for bus washes and irrigation.
- Coordinate with LA Sanitation's Enhanced Watershed Management Program Plans and the Los Angeles Department of Water and Power's Stormwater Capture Master Plan wherever feasible to capture stormwater runoff at LAUSD owned sites.
- Explore the feasibility of capturing stormwater from offsite sources on LAUSD Campuses.

3.2.6 Metro

Vision Statement: Metro provides excellence in service and support.

Mission Statement: Metro is responsible for the continuous improvement of an efficient and effective transportation system for Los Angeles County.

Roles and Responsibilities:

- Provide updates on water-related projects, policies, and programs.
- Participate in One Water LA Steering Committee Meetings and Stakeholder Workshops.
- Participate in Task 3: Integration of Currently Planned Projects/Programs.
- Participate in Task 4: Funding Strategies.
- Participate in Task 18: Public Outreach & Marketing Strategies.

Metro Water-Related Recommendation(s) Identified during Phase 1:

- Evaluate the use of recycled water (Title 22) for bus washes and railcar washes and irrigation.
- Coordinate with LA Sanitation's Enhanced Watershed Management Program Plans and the Los Angeles Department of Water and Power's Stormwater Capture Master Plan wherever feasible to capture stormwater runoff on Metro sites.
- Consider incorporating credits for stormwater Best Management Practices and recycled water use into the grant application process.
- Coordinate with City and regional grantees for implementation of sustainable water practices.

3.2.7 MWDSC

Mission Statement: 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.

Roles and Responsibilities:

- Provide updates on water-related projects, policies, and programs.
- Identify integration and partnership opportunities for regional recycled water programs, such as the potential collaboration with the Sanitation Districts of Los Angeles County and LA Sanitation regarding future reuse opportunities from HWRP.
- Participate in One Water LA Steering Committee Meetings and Stakeholder Workshops.
- Participate in Task 3: Integration of Currently Planned Projects/Programs.
- Participate in Task 4: Funding Strategies.

3.2.8 SCAG

Vision Statement: An international and regional planning forum trusted for its leadership and inclusiveness in developing plans and policies for a sustainable Southern California.

Mission Statement: To facilitate a forum to develop and foster the realization of regional plans that improves the quality of life for Southern Californians.

Roles and Responsibilities:

- Provide updates on water-related projects, policies, and programs.
- Participate in One Water LA Steering Committee Meetings and Stakeholder Workshops.
- Participate in Task 3: Integration of Currently Planned Projects/Programs.

SCAG Water-Related Recommendation(s) Identified during Phase 1:

- Incorporate One Water's water-related climate change mitigation and adaptation strategies into the Regional Transportation Plan, Sustainable Communities Strategy, and other areas of opportunity.

3.2.9 USACE

Vision Statement: Your partner in engineering a sustainable future.

Mission Statement: To safeguard the Nation and protect the environment with expert engineering and water resource solutions.

Roles and Responsibilities:

- Provide updates on water-related projects, policies, and programs.
- Participate in One Water LA Steering Committee Meetings and Stakeholder Workshops.
- Participate in Task 3: Integration of Currently Planned Projects/Programs.

4.0 INTERDEPARTMENTAL AND INTERAGENCY RELATIONSHIPS

LASAN and LADWP take the lead as part of the One Water LA Team in fostering communication amongst City departments and with regional agencies to identify areas where departments and agencies can integrate water-related efforts to maximize water conservation, stormwater capture, and water reuse city-wide. Figure 3 illustrates the City departments and regional agencies that are currently coordinating with one another on water-related projects, policies, or programs.

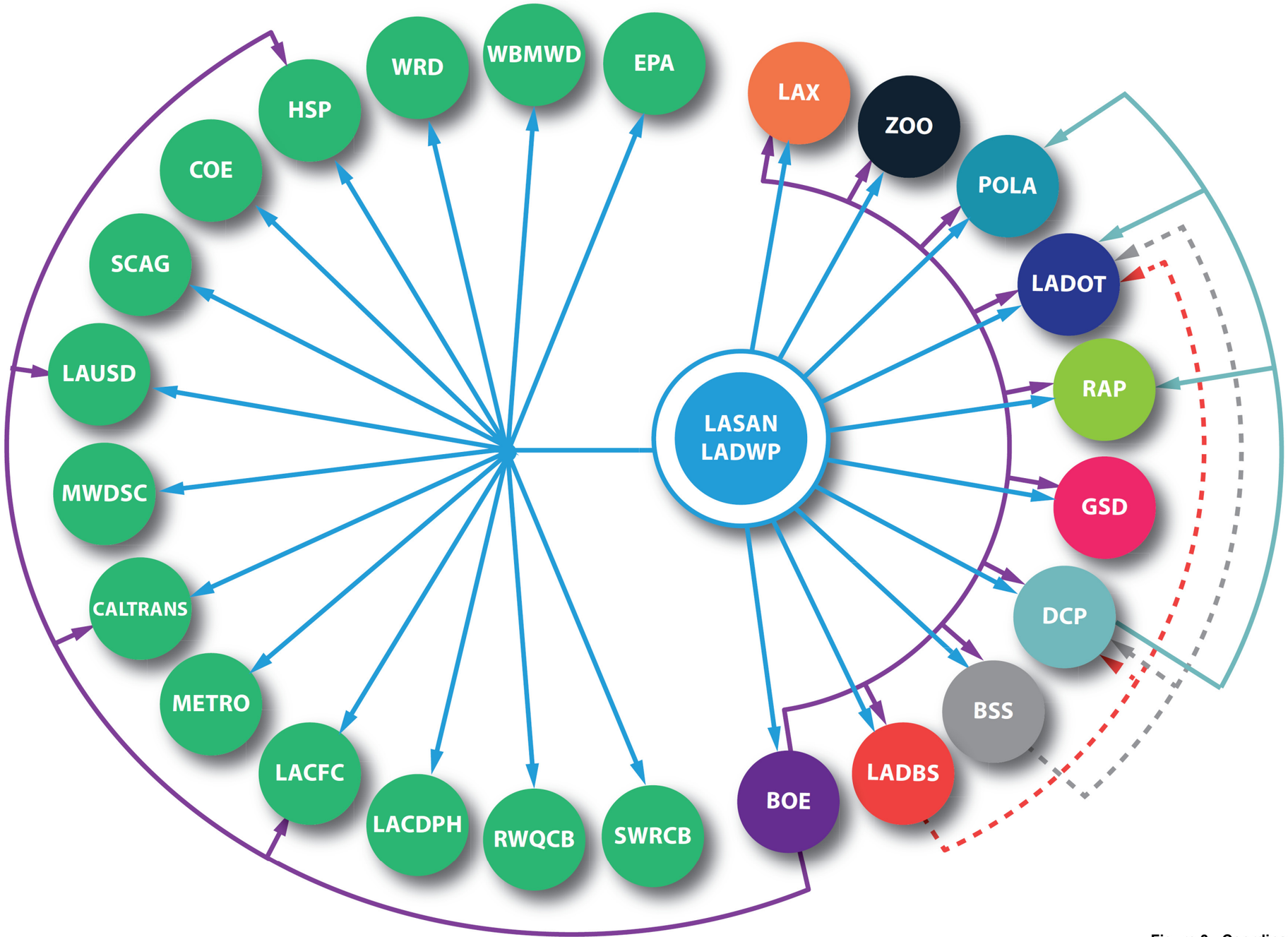

Figure 3 - Coordination Diagram
One Water LA 2040 Plan
TM 1.1 - City's Roles and Responsibilities

Some examples of the coordination efforts shown in the graphic are listed below:

- The General Services Department:
  - Collaborates with LADWP to retrofit City-owned buildings so that they are water efficient.
  - Works with RAP on Turf Replacement Projects.
- The Bureau of Engineering:
  - Works with GSD for the design and construction of Leadership in Energy and Environmental Design Silver certified City facilities.
  - Works with LASAN on the design and construction of Prop O projects and the development of green street standard plans.
- The Mayor's LARiverWorks Office:
  - Works with HSR to build in clearance for channelized waterways.
  - Works with the USACE on the LA River Ecosystem Restoration Feasibility Study.
- The Bureau of Street Services:
  - Works with the BOE on parkway guidelines and developing standards for artificial turf.
  - Works with LADWP to install fill stations that will provide access for Non-Profit Organizations to water trees throughout areas of the City.
- Works with LADOT on the Safe-Routes-to-School Program.
- Caltrans works with the LADWP to improve the maintenance of their buildings to increase water conservation efforts.
- The Los Angeles Department of Transportation:
  - Works with DCP to update the Circulation elements of the Community Plans and to update and implement the Transportation (Mobility) Element in the City's General Plan.
  - Works with BOE and BSS on the design and implementation of grant funded transportation improvements.
- LASAN and LADWP work with DONE to increase community awareness and advocacy for sustainable water supplies.
- HSR and Metro work together on the LA Union Station Master Plan Project.
- POLA works with LADWP to install recycled water pipelines on major streets in the Harbor Area.

5.0 ROLES AND RESPONSIBILITIES OF CONSULTANTS AND THE ONE WATER LA GROUP

5.1 Role and Responsibilities of Consultants

The Consultant Team provides internal technical quality assurance and quality control on all evaluations, reports, calculations, written documents, and other submittals prior to submittal to the One Water LA Group. The Consultant Team is responsible for developing preliminary drafts, drafts, final drafts, and final Tech Memos or work products for all Project Tasks included in the Scope of Work for Phase 2 based on review and feedback from the One Water LA Group. The Consultant Team prepares agendas for coordination meetings, management meetings, Project Task meetings, Steering Committee meetings, Advisory Group meetings, and stakeholder workshops. The roles and responsibilities of the consultant team are summarized in Table 3.

Table 3 Consultant Team Roles and Responsibilities
One Water LA 2040 Plan – TM 1.1

#	Roles & Responsibilities
1.	Provide internal technical quality assurance and quality control on all work products prior to submittal to the One Water LA Group for review and feedback.
2.	Develop Preliminary Drafts, Drafts, Final Drafts, and Final Tech Memos or Work Products for Phase 2 Project Tasks.
3.	Prepare agendas for coordination meetings, Management Meetings, Project Task meetings, Steering Committee meetings, Advisory Group Meetings, and stakeholder workshops.
4.	Provide meeting notes and follow-up action items for Project Task Meetings and Management meetings.
5.	Facilitate Stakeholder Workshops, Project Task Meetings, Advisory Group Meetings and Steering Committee Meetings.

For each management meeting and Project Task meeting, the Consultant Team provides meeting attendees and other key personnel involved with detailed meeting notes and follow-up action items. The Consultant Team facilitates Stakeholder Workshops, Project Task Meetings, Advisory Group Meetings and Steering Committee Meetings to ensure respectful and productive dialogue and proper time management.

5.2 Roles and Responsibilities of the One Water LA Group

The One Water LA Group schedules individual Focus Meetings with City departments and regional agencies involved with water. Focus Meetings are held with City departments and regional agencies for the One Water LA Group to remain informed on current water-related policies, projects, and programs and identify potential opportunities for integration. The One Water LA Group provides meeting notes to meeting attendees for each Focus Meeting and

follows-up with all action items. The One Water LA Group leads coordination meetings throughout the Phase 2 planning effort with support from the Consultant Team to ensure proper preparation for stakeholder workshops and coordination amongst the Core One Water LA Team (LASAN, LADWP, and Consultant Team) on Phase 2 Tasks. The roles and responsibilities of the consultant team are summarized in Table 4.

Table 4 One Water LA Group Roles and Responsibilities
One Water LA 2040 Plan – TM 1.1

#	Roles & Responsibilities
1.	Schedule individual Focus Meetings with City departments and regional agencies.
2.	Provide meeting notes from Focus Meetings.
3.	Follow-Up with Action Items from Focus Meetings.
4.	Lead coordination meetings with Core Team.
5.	Schedule and provide meeting content for Steering Committee Meetings.
6.	Schedule and provide meeting content for Advisory Group Meetings.
7.	Conduct One Water LA Stakeholder Workshops.
8.	Monitor and manage Phase 2 Task Scopes, Schedules, and Budgets.
9.	Attend water-related events (e.g. conferences, symposiums, etc.) to provide the public with updates on the One Water LA Plan.

The One Water LA Group schedules and provides meeting content for Steering Committee Meetings with City departments and regional agencies to provide updates on the progress of the One Water LA Plan. Additionally, the One Water LA Group schedules and provides meeting content for Advisory Group meetings that involve a select group of stakeholders. Advisory Group meetings are held to allow for more focused dialogue on draft materials that are presented to a larger group of stakeholders at workshops. Stakeholder workshops are conducted by the One Water LA Group with assistance from the Consulting Team to obtain input from a broader group of stakeholders throughout the One Water LA Planning effort.

The One Water LA Group monitors and manages Phase 2 task scopes, schedules, and budgets, including SBE/MBE/WBE/EBE/DBE commitment and utilization. Water-Related events such as Conferences, Symposiums, Committee Meetings, Council Meetings, etc. are attended by One Water LA Group to provide progress updates to the public on the One Water LA Plan.

6.0 CONCLUSIONS AND RECOMMENDATIONS

6.1 Conclusions

To ensure that the Mayor's goals are met in both the Mayor's Executive Directive #5 and the City Sustainability Plan, City departments and regional entities should play a role in coordinating on water-related projects and programs. Coordination in water-related projects and programs not only achieves individual missions of City departments and regional agencies, it also provides multiple benefits to the City to address its water management challenges.

Additionally, City departments and regional entities should each play a role in implementing both short-term and long-term policies that will collectively enhance the City's ability to conserve water, capture stormwater and reuse water. Moving forward, One Water LA will look to facilitate ongoing communication and collaboration amongst City department and regional entities to properly manage the City's watersheds, water resources, and water facilities in an environmentally, economically, and socially beneficial manner for the benefit of all Angelenos.

6.2 Recommendations

It is important to note that the City departments, Bureaus, and regional agencies listed in this Tech Memo are only those currently involved in the One Water LA Plan. One of the goals for One Water LA is to continually build and expand coordination with current participants and seek to identify and create partnerships with additional water-related Divisions within City departments and regional agencies to maximize integration opportunities.

The One Water LA Group also intends to identify additional short-term ("quick fix") water-related policies with City departments and regional agencies that are a priority to pursue during Phase 2 to help further achieve the One Water LA objectives and guiding principles.

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CITY OF LOS ANGELES

TECHNICAL MEMORANDUM NO. 2.2
EXPECTED FUTURE CONDITIONS

FINAL
October 2017

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CITY OF LOS ANGELES

TECHNICAL MEMORANDUM
NO. 2.2
EXPECTED FUTURE CONDITIONS

TABLE OF CONTENTS

Page No.

APPENDICES

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATIONS

Abbreviation	Description
°F	degrees Fahrenheit
AF	acre-feet
AFY	acre-feet per year
AWT	advanced water treatment
BMPs	Best Management Practices
Caltrans	California Department of Transportation
CBMWD	Central Basin Municipal Water District
CCAMP	California Coastal Analysis and Mapping Project
CCR	California Code of Regulations
CDPH	California Department of Public Health
CEC	constituents of emerging concern
City	City of Los Angeles
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
Cr(VI)	Hexavalent Chromium
CTR	California Toxics Rule
CWA	Clean Water Act
DCP	Department of City Planning
DCTWRP	Donald C. Tillman Water Reclamation Plant
DDW	Division of Drinking Water
DPR	direct potable reuse
ECLWRF	Edward C. Little Water Recycling Facility
ED#5	Executive Directive No. 5
EPA	Environmental Protection Agency
ERA	Exceedance Response Actions
EWMP	Enhanced Watershed Management Program
EWVIS	East West Valley Interceptor Sewer
FEMA	Federal Emergency Management Agency
FIRMs	flood insurance rate maps
FIS	flood insurance studies
GAC	granular activated carbon
GI	green infrastructure
GISP	General Industrial Stormwater Permit
GRASS	Greenways to Rivers Arterial Stormwater System
GSIS	Groundwater System Improvement Study
GWR	groundwater replenishment
HWRP	Hyperion Water Reclamation Plant
IPR	indirect potable reuse
IRP	integrated resources plan
JPA	Joint Powers Authority

Abbreviation	Description
JWPCP	Joint Water Pollution Control Plant
LACFCD	Los Angeles County Flood Control District
LACSD	Los Angeles County Sanitation District
LADOT	Los Angeles Department of Transportation
LADWP	Los Angeles Department of Water and Power
LAGWRP	Los Angeles-Glendale Water Reclamation Plant
LASAN	Los Angeles Sanitation
LAX	Los Angeles International Airport
LID	low impact development
LVMWD	Las Virgenes Municipal Water District
MBR	membrane bioreactor
Metro	Metropolitan Transportation Authority
mgd	million gallons per day
MS4	Municipal Separate Storm Sewer System
MSC	Map Service Center
MWD	Metropolitan Water District
N/A	not applicable
NPDES	National Pollutant Discharge Elimination System
NPR	non-potable reuse
PCE	tetrachloroethylene
RAA	Reasonable Assurance Analysis
Risk MAP	Risk Mapping, Assessment, and Planning
RO	reverse osmosis
RTP	Regional Transportation Plan
RWMP	Recycled Water Master Plan
RWQCB	Regional Water Quality Control Board
SAT	soil aquifer treatment
SCAG	Southern California Association of Governments
SCMP	Stormwater Capture Master Plan
SCS	Sustainable Communities Strategy
SFB	San Fernando Basin
SSO	sanitary sewer overflow
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
Tapia	Tapia Water Reclamation Facility
TBD	to be determined
TCE	trichloroethylene
TDS	total dissolved solids
TIWRP	Terminal Island Water Reclamation Plant
TM	Technical Memorandum
TMDL	total maximum daily load

Abbreviation	Description
TPL	Trust for Public Land
UCLA	University of California Los Angeles
ULAR	Upper Los Angeles River
ULARA	Upper Los Angeles River Area
USC	University of Southern California
USGS	U.S. Geological Survey
UWMP	Urban Water Management Plan
VOC	volatile organic compounds
WBMWD	West Basin Municipal Water District
WQBELs	water quality-based effluent limits
WQCMPUR	Water Quality Compliance Master Plan for Urban Runoff
WRD	Water Replenishment District

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EXPECTED FUTURE CONDITIONS

1.0 INTRODUCTION

1.1 Background of One Water LA

The City of Los Angeles (City) recently embarked on the One Water LA 2040 Plan. This plan will provide a strategic vision and a collaborative approach for integrated water management. In 2006, the City completed and adopted its first integrated water resources plan (IRP). This plan was the start of a paradigm shift for the City and resulted in significant achievements. Since then, the water landscape in the City has changed with increased demands, new regulations, and threats of climate change.

In response to these changes and to help achieve water sustainability, the City initiated the One Water LA 2040 Plan. This plan builds upon the success of the Water IRP, which had a planning horizon to year 2020. The One Water LA 2040 Plan takes a holistic and collaborative approach, to consider all water resources from surface water, groundwater, potable water, wastewater, recycled water, dry-weather runoff, and stormwater as "One Water." The plan identifies multi-departmental and multi-agency integration opportunities to manage water in a more efficient, cost effective, and sustainable manner.

The One Water LA 2040 Plan represents the City's continued and improved commitment to proactively manage all its water resources and implement innovative solutions, driven by the Sustainable City pLAn. The Plan will guide the City with strategic decisions for water resource related projects, programs, and policies that will make Los Angeles a resilient and sustainable City.

1.2 Purpose of Task 2

The purpose of Task 2 of the One Water LA project is to extend the planning horizon of the City's existing water management, flows, and integration opportunities developed in Task 1 to planning year 2040. The deliverables of Task 2 will quantify the future water flow balance (Technical Memorandum [TM] 2.1) and provide a summary of expected future conditions (TM 2.2).

1.3 Objectives of TM No. 2.2

The objective of this TM is to describe the expected future conditions by planning year 2040 based on the anticipated implementation of other long-term planning documents, anticipated regulatory changes, industry trends for water management, and climate change adaption measures.

2.0 EXPECTED FUTURE CONDITIONS

Currently, the City has a population of almost 4 million people that inhabit an urban area of approximately 500 square miles. Over the next 25 years, the population in Los Angeles is projected to increase by approximately 500,000 people (Sustainable City pLAn, 2015; UWMP, 2015). In anticipation of this population growth, Mayor Garcetti set goals for sustainable growth in Los Angeles in the City's 2015 Sustainable City pLAn. For water, these include targets to halve the City's purchase of imported water by the year 2025, and to locally source 50 percent of the City's water by 2035.

The following technical memorandum describes the expected future conditions on the 2040 planning horizon. The discussion includes expected conditions of the City's water flows, the implementation of on-going and planned projects, impacts of upcoming regulations, and the anticipated adaptation measures to prepare for climate change impacts.

The description of the future conditions is organized in the following six subsections.

- Groundwater
- Potable Water
- Recycled Water
- Wastewater
- Stormwater
- Climate Change

2.1 Groundwater

A key resource that the City has relied upon as a major component of its local water supply portfolio is local groundwater. Over the last five years local groundwater has provided approximately 12 percent of the total water supply for Los Angeles, and since 1970 has provided up to 23 percent of total supply during extended dry periods when imported supplies become less reliable.

The City owns water rights in the San Fernando, Sylmar, Eagle Rock, Central, and West Coast Basins. The City's combined water rights in these basins is approximately 109,809 acre-feet per year (AFY) (Urban Water Management Plan [UWMP], 2015). Water rights for these basins are adjudicated by judicial decrees of the Superior Court of the State of California.

Industrial contamination issues are the principle reason for restricted use of local groundwater pumping by the City. Furthermore, declining groundwater levels and overdraft conditions have become additional concerns for Los Angeles basins where decades of

expanding urbanization, increasing impervious hardscape, and channelization of stormwater runoff have diverted natural replenishment away from local aquifers. Aging wellfields and distribution system infrastructure has also presented challenges to the development and use of the City's local groundwater resources. Combined, these challenges have caused the City to renew its focus on sustainable management of its local groundwater basins (2015 UWMP).

This section describes selected on-going and upcoming projects in the San Fernando, Central, West Coast, Santa Monica Basin, and Hollywood Basins.

2.1.1 San Fernando Basin

The San Fernando Basin (SFB) is the primary source of local groundwater for the City, contributing 87,000 AFY (more than 80 percent) of the City's groundwater rights. The LADWP has 10 wellfields within the SFB, containing 115 wells.

Increased Groundwater Recharge

There are many projects underway to increase groundwater recharge into the SFB. Increased recharge is expected to improve the quality of the SFB through contaminant loading dilution and also increase the City's groundwater pumping rights in the basin, serving to increase the contribution of local water supplies to serve future demands.

One initiative to increase groundwater recharge in the SFB is the proposed Groundwater Replenishment (GWR) Project. The Project would provide up to 30,000 AFY of recycled water to recharge the SFB. The treated wastewater would then be transported via new and existing pipelines from Donald C. Tillman Water Reclamation Plant (DCTWRP) to the Hansen and Pacoima Spreading Grounds for recharge into the SFB. This joint venture between the Los Angeles Department of Water and Power (LADWP) and Los Angeles Sanitation (LASAN) is expected to begin operation in 2022.

In addition, LADWP identified several opportunities to capture stormwater for groundwater recharge into the SFB in its 2015 Stormwater Capture Master Plan (SCMP). The SCMP provides an implementation strategy for stormwater capture over the next 20 years, using centralized and distributed capture. Under the SCMP implementation strategy, LADWP could increase its stormwater capture by nearly 68,000 to 114,000 AF per year by 2035 for a total capture amount of 132,000 AF (Conservative) and 178,000 AF (Aggressive), with most of the increased recharge occurring in the San Fernando Valley. Some of the projects identified in the SCMP are already underway.

Specifically, as part of the SCMP, LADWP developed concept reports for three high-priority projects. These include the East Valley Baseball Park, the Old Pacoima Wash, and the Canterbury Powerline Easement.

- The East Valley Baseball Park Infiltration System Stormwater Capture Program calls for the construction of three infiltration basins to retain stormwater and overflow of

stormwater from the Tujunga Spreading Grounds. This project is anticipated to capture 750 AFY of stormwater, with a recharge benefit of 174 AFY (UWMP, 2015).

- The Old Pacoima Wash project would construct multiple infiltration basins to retain stormwater and overflow of stormwater from the Pacoima Spreading Grounds. In addition, it would also retrofit existing storm drains to maximize capture and recharge. This project is anticipated to capture 1,000 AFY of stormwater, with a recharge benefit of 380 AFY (UWMP, 2015).
- The Canterbury Powerline Easement would include construction of 24 recharge basins to receive local stormwater and overflow of stormwater from the Pacoima Spreading Grounds. The project is expected to capture 1,000 AFY of stormwater, with a recharge benefit of 334 AFY (UWMP, 2015).

Groundwater Treatment

Groundwater contamination has severely impaired groundwater, requiring cleanup and remediation for environmental and public benefit, as well as to prevent further loss of this local water resource. The City has 52 active wells, with approximately half of its SFB production wells inactive due to contamination. Primary areas of concern include the Tujunga, Rinaldi-Toluca, North Hollywood, and Pollock wellfields. Groundwater contamination was likely caused by improper storage, handling and disposal of hazardous chemicals uses in the aircraft manufacturing industry, as well as commercial and heavy industrial activities dating back to the 1940s. There are organic and inorganic contaminants of concern present (i.e., trichloroethylene (TCE), tetrachloroethylene (PCE), 1,4-Dioxane, Cr(VI), perchlorate, carbon tetrachloride, nitrate, and others).

LADWP is undertaking a remediation program that will result in a Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)-quality groundwater cleanup that restores the beneficial use of the SFB. Remediation facilities are being planned and designed to implement necessary remedial action to remove contaminants from groundwater. These facilities would enable LADWP to safely manage and extract water from existing wellfields and cleanup the contamination. Remediation facilities may include both centralized and/or localized wellhead remediation facilities.

Remediation facilities would be designed to utilize best available technologies (i.e., liquid phase granular activated carbon, air stripping with vapor phase granular activated carbon, advanced oxidation process, and ultraviolet light in conjunction with hydrogen peroxide). LADWP is focusing initially on response actions within the most productive wellfields (North Hollywood West, Rinaldi-Toluca, and Tujunga) where the impact of contamination on the beneficial use is most severe, and where groundwater leaves the SFB (Pollock). The North Hollywood East wellfield would not be part of this approach because it would be addressed through targeted treatment to be implemented by potentially responsible parties under the oversight of the U.S. Environmental Protection Agency.

2.1.2 Sylmar Basin

The Mission Wellfield in the Sylmar Basin has a total of seven (7) wells, with five (5) of them built between 1960 and 1977, and the remaining two (2) were built before 1961. However, only two wells are operable, of which one has been removed from service due to groundwater contamination (primarily TCE). The Mission Wells Improvement Project is installing three replacement wells and associated infrastructure to restore groundwater use and pumping capacity in the basin. Replacement wells are expected to restore LADWP's pumping capacity and ability to produce its water right in this basin.

2.1.3 Central Basin and West Coast Basins

The Central and West Coast Basins currently contribute 17,236 AFY and 1,503 AFY respectively to the City of Los Angeles' water rights.

Within the Central Basin, the City pumps groundwater from two wellfields (Manhattan and 99th Street). Manhattan wells are approaching the end of their useful life, experiencing mechanical deterioration and water quality issues. The Manhattan Wells Improvement Project is restoring the City's pumping capacity and addressing groundwater contamination issues (primarily TCE). This project is going to rehabilitate and/or construct up to eight production wells, along with related infrastructure (pipeline, electrical upgrades, and supervisory control and data acquisition). There are four active wells in the 99th Street Wellfield that were installed between 1974 – 2002. Although these wells do not have the industrial contamination issues that exist in the Manhattan wellfield, it does contain iron and manganese contamination. The wellfield is currently not operating due to construction of new chloramination facilities to be followed by construction of iron and manganese treatment facilities.

The West Coast Basin includes one City wellfield, the Lomita Wellfield. However, this wellfield has been impacted by localized groundwater contamination and deterioration of water quality (total dissolved solids [TDS], hydrocarbons, and chlorides), such that LADWP has discontinued operation, and there has not been any City pumping since 1980.

Groundwater Recharge

Currently, the Water Replenishment District of Southern California (WRD) manages and regulates the replenishment of the Central and West Coast Basins. The WRD considers current groundwater levels and annual groundwater extractions to determine the necessary amount of recharge into the Central and West Coast Basins. Additionally, the WRD procures recycled water to inject into the West Coast Basin to prevent sea water intrusion. The Metropolitan Water District (MWD) of Southern California and the Los Angeles County Sanitation District (LACSD) are pursuing additional uses for recycled water under a Regional Water Supply program, which could increase the water supply portfolio of both agencies and augment groundwater recharge into the West Coast and Central Basins.

2.1.4 Other Basins

In addition to the groundwater basins described in the previous section, the City overlies three other groundwater basins that are currently not used for potable groundwater production. These include the Eagle Rock Basin, Santa Monica Basin, and Hollywood Basin.

Due to the emphasis of developing more local water supplies, there is a renewed emphasis to maximize utilization of other local groundwater basins that the City does not currently produce groundwater from. Moreover, with the passing of the Sustainable Groundwater Management Act (SGMA), cities with land overlaying unadjudicated groundwater basins, are required to sustainably manage their basins. Unadjudicated basins are those wherein parties owning property have a right to pump groundwater from the underlying aquifers.

Throughout the development of SGMA, there was broad public consensus that adjudicated basins are well managed, subject to Court jurisdiction, and should not be the primary focus for SGMA. Therefore, the new law only requires managers of adjudicated basins to file a copy of the adjudication with DWR and the annual reports which document basin conditions. Los Angeles overlies both adjudicated and unadjudicated basins; therefore LADWP plans to work with its regional partners towards implementing SGMA for the unadjudicated basins that are located within the City's boundaries.

SGMA revised the Water Code to direct the Department of Water Resources (DWR) to develop a groundwater basin priority, ranging from very low – high priority for all groundwater basins. Prioritization is going to be used to align resources in the implementation of the California Statewide Groundwater Elevation Monitoring Program, whereby DWR is going to focus on High and Medium priority groundwater basins first. The characteristics and SGMA priority status of the groundwater basins that the City currently does not use for production are described next.

- **Eagle Rock Basin –** This basin has a very small estimated safe yield of approximately 500 AFY. Given the limited yield, the City does not foresee producing groundwater from this basin at this time. The basin's SGMA priority status is medium.
- **Santa Monica & Hollywood Basins –** These two basins are unadjudicated, and the City does not have any production wells in either. Both have some groundwater contamination issues. The Santa Monica Basin has been impacted by Methyl tertiary butyl ether [MTBE], VOCs, and elevated TDS. The Hollywood Basin has been affected by localized VOC contamination and also has elevated TDS. Per SGMA, Santa Monica Basin is a medium priority basin, while the Hollywood Basin is a very low priority basin. Any future groundwater development by the City would be anticipated to proceed in a manner that is locally sustainable, in cooperation with these local partners, and in accordance with the SGMA.
- **Northern Portion of the Central Basin –** In addition, there is an unadjudicated northern area of the Central Basin that is considered a high priority basin by SGMA.

LADWP is moving forward in collaborating with municipalities and agencies overlying these basins to comply with the SGMA and evaluate how it can maximize utilization from other groundwater basins.

2.1.5 Groundwater Summary

The expected future conditions for groundwater are summarized in Table 1. As shown, the City's potential groundwater yield is expected to increase from 109,809 AFY to 152,408 AFY.

Table 1 City of Los Angeles Groundwater Rights Summary
One Water LA 2040 Plan – TM 2.2

Groundwater Basin	Existing Water Rights (AFY)	New Projects (AFY)	Potential Future Yield (AFY)
San Fernando Basin	87,000	45,000	132,000
GWR Project		*30,000*	
SCMP Implementation		*15,000*	
West Coast Basin	1,503	TBD	1,503
Central Basin	17,236	TBD	17,236
Sylmar Basin	3,570	TBD	3,570
Eagle Rock Basin	500	TBD	500
Santa Monica Bay Basin	unadjudicated	TBD	TBD
Hollywood Basin	unadjudicated	TBD	TBD
Totals	**109,809**	**45,000**	**152,408**

Abbreviation:
TBD = to be determined

2.2 Water

Primary sources of water for the City of Los Angeles include the Los Angeles Aqueducts, local groundwater, and purchased imported water from MWD. Water demand is anticipated to grow with the rising population of the City. This section of the technical memorandum will summarize the anticipated water demand forecast, changes in treatment technologies, potential water transfer opportunities within the Los Angeles Basin and the potential use of graywater.

2.2.1 Water Demand Forecast

Water demand is influenced by a number of different factors. These factors include population growth, weather, water conservation, regulations, drought conditions, water rates, and economic activity. Historically, population growth was a direct indicator of

increased water demand. More recently the other factors have begun to exert more influence on the potable demand.

Table 2 summarizes the projected water demands from the 2015 UWMP for both normal and dry year conditions. The projected water demands are broken down into indoor demands, outdoor demands, and anticipated conservation based on projected population growth.

The split between indoor and outdoor demands can be estimated using one of two methods:

1. Estimation of water needed for landscape irrigation in accordance with the California Model Water Efficient Landscape Ordinance
2. Comparison of wastewater flows to total water consumption.

The City is prepared water demand forecasts as part of the 2015 UWMP, which has a planning horizon of year 2040 and thus coincides with the horizon of the One Water LA 2040 Plan. The 2015 water demand forecast is presented in Table 2.

Table 2 Projected Water Demand Projection - Normal Year Conditions One Water LA 2040 Plan – TM 2.1

Year	Imported MWD (AFY)	LA Aqueduct (AFY)	Groundwater (AFY)[1]	Recycled Water (AFY)[2]	pLAn Demand Target (AFY)[3]	Potable Demand Total (AFY)[4]
2020	75,430	275,700	114,670	19,800	485,600	465,800
2025	65,930	293,400	114,670	59,000	533,000	474,000
2030	65,430	291,000	114,670	69,000	540,100	471,100
2035	60,630	288,600	129,670	72,200	551,100	478,900
2040	74,930	286,200	129,070	75,400	565,600	490,200
	Table 5	Table 6	Table 7	Table 8	N/A	N/A

Notes:
(1) The annual groundwater total includes groundwater (net) and stormwater recharge. Stormwater reuse is not included.
(2) The annual recycled water includes 30,000 AFY of IPR from 2025 and beyond.
(3) The target demand was obtained from the 2015 UWMP Table ES-S.
(4) Potable demand is calculated as pLAn Demand Target minus Recycled Water Demand

The population in Los Angeles is projected to increase at a rate of 0.5 percent annually over the next 25 years (UWMP, 2015). This rate will add approximately 500,000 residents to the City of Los Angeles, increasing the total population from roughly 4 to 4.5 million. As the population grows, so will the demand on our roads and transit systems. The Southern California Association of Governments (SCAG) Regional Transportation Plan (RTP) states that "By failing to address our congestion, we have foregone jobs…." (2012-2035,

RTP/Sustainable Communities Strategy [SCS]). The Los Angeles County Metropolitan Transportation Authority (Metro) - Long Range Transportation Plan (Metro, 2009) has plans to develop 230 miles of bus stations and 400 miles of railway to help alleviate this congestion. The development of these transit areas will shift the population density around these corridors; the water demand along these corridors will likely also shift from single-family dwellings with outdoor water use to multi-family dwellings and more indoor use. According to SCAG, it is assumed that the densification along these transportation corridors does not impact the total projected water demand, but would result in a redistribution of demands within the City.

2.2.2 New Treatment Technologies

As increasing populations and sustained drought conditions continue to stress water supplies in Southern California, the need for innovative treatment technologies to expand the water supply becomes increasingly important. The following section highlights a few of the numerous ongoing and recently published research subjects in the field of water treatment.

Researchers at South Korea's Inha University have been investigating the potential of Staged Anaerobic Fluidized membrane bioreactors (MBR) to treat industrial and municipal wastewaters. They have found that anaerobic MBR treatment *produces* energy, while also significantly reducing the production of biosolids and the building footprint. The anaerobic MBR treatment has also been proven successful at temperatures as low as 8 degrees Celsius. The various benefits of the Inha researchers' anaerobic MBR treatment shows high potential for wastewater reuse applications.

Granular activated sludge is a new innovation in biological treatment of wastewater, which provides denitrification and phosphorus removal. Researchers at the Netherland's Delft University have demonstrated that granular activated sludge can achieve similar efficiencies as conventional biological nutrient removal, but with lower costs, lower energy requirements, and a reduced building footprint. The technology is proven to be a stable process and is already commercially available. Further studies are being conducted to investigate its performance under extreme conditions.

Advances in stormwater treatment technologies will also have an important role in increasing LA's urban water supply. Research is continually improving our understanding of the treatment capacities of various media to remove contaminants from stormwater. Biochar has been proven to effectively remove heavy metals from stormwater and shows additional promise for significant *E. coli* reduction. Several studies have shown that enhancing sand media with iron significantly increases its capacity for phosphate removal. Woodchip biofilters have been shown to effectively remove nitrates from stormwater. Geomedia coated with manganese oxide will remove trace organics and heavy metals. Various studies are being conducted at universities and institutions around the world to further investigate these treatment mechanisms and to optimize the processes for future use.

2.2.3 Water Transfer Opportunities

Historically, the City of Los Angeles and MWD have engaged in water transfer agreements to provide additional supply and increase reliability, especially during dry years. For example, MWD has often purchased water from the Central Valley when necessary.

In 2015, LADWP estimated that future water transfers could contribute an additional 40,000 AFY to the local water supply through 2040. On average, these transfers could cost about $500/AF.

2.2.4 Graywater

Graywater is gently used water from bathroom sinks, showers, tubs, and washing machines. Graywater may contain traces of dirt, food, grease, hair, and certain household cleaning products, but is not water that has come into contact with feces, such as water from toilet flushing. While graywater may look "dirty," it is a safe and even beneficial source of irrigation water in a yard.

Although graywater use is not estimated in LADWP's 2015 UWMP, it is important to note its use with respect to its water use efficiency potential. Between 2010 and 2015, the City of LA has issued 45 graywater system permits. This includes graywater piping systems for commercial sites, apartment complexes, and single family dwellings. It should be noted that only commercial sites require a permit from the City of Los Angeles' Department of Building and Safety, and therefore the total number of graywater systems is likely much higher.

The use of graywater for non-potable purposes such as outdoor irrigation could directly offset potable water demands. However, graywater use also reduces wastewater flows received by the City's four wastewater treatment plants, which have the ability to treat this water to much higher water quality standards. As wastewater flows in the City have been declining, central wastewater treatment that allows high-end wastewater recycling opportunities, such as indirect potable reuse (IPR), are typically preferred to maximize the use of existing wastewater collection and treatment infrastructure. However, graywater systems may provide important water use efficiency benefits in areas that are not connected to the City's sewer system. Additionally, graywater systems can promote public awareness of water scarcity and reduce outdoor water use.

The total amount of potable water offset by the City's existing graywater systems is not measured and very difficult to estimate. Of the 680,000 water accounts within the City, 45 sites are recorded as having a graywater system. Given that graywater use could only offset a small portion of the total water consumption of each account, it can be concluded that graywater systems currently have an insignificant impact on the City-wide water demands.

2.3 Wastewater

The One Water LA vision integrates wastewater with water supply, water conservation, water recycling, and stormwater. A portion of the City's treated wastewater flows, including stormwater, become recycled water that offsets City's demand on imported water supplies. The City owns and operates the following four treatment plants within the City of Los Angeles:

- Donald C. Tillman Water Reclamation Plant (DCTWRP)
- Los Angeles-Glendale Water Reclamation Plant (LAGWRP)
- Hyperion Water Reclamation Plant (HWRP)
- Terminal Island Water Reclamation Plant (TIWRP)

Wastewater is conveyed to the treatment plants through a system comprised of more than 6,500 miles of sewer pipelines, 48 pumping plants, and numerous diversion structures. The system has the capacity to convey over 550 million gallons of flow each day. This section of the technical memorandum describes the flows at each of the treatment plants, flow equalization, diversion of the sewers and stormflows.

2.3.1 Future Treatment Plant Flows

In recent years, flow into the wastewater treatment plants has been declining. This is due in part to the economic recession as well as the on-going success of water conservation.

Figure 1 shows how the flows have been declining for all of the wastewater flows in the City of Los Angeles.

As shown on Figure 1, the City's total wastewater flows have declined rapidly in recent years from 424 mgd in 2002 to 342 mgd in 2014. This equates to a 2 percent decline per year during this period.

This decline in wastewater flows is largely the result of a successful water conservation program despite the City's population increase of 160,000 people during the same period. In response to the prolonged drought and the Mayor's Executive Directive No. 5 (ED#5), Emergency Drought Response – Creating a water Wise City, it is anticipated that further water demand hardening has occurred resulting in a permanent reduction of per capita water use and wastewater flow generation. Additionally, the installation of potential satellite treatment plants could further reduce wastewater flows. As a result of these declining wastewater flow trends, the wastewater will continue to become more concentrated.

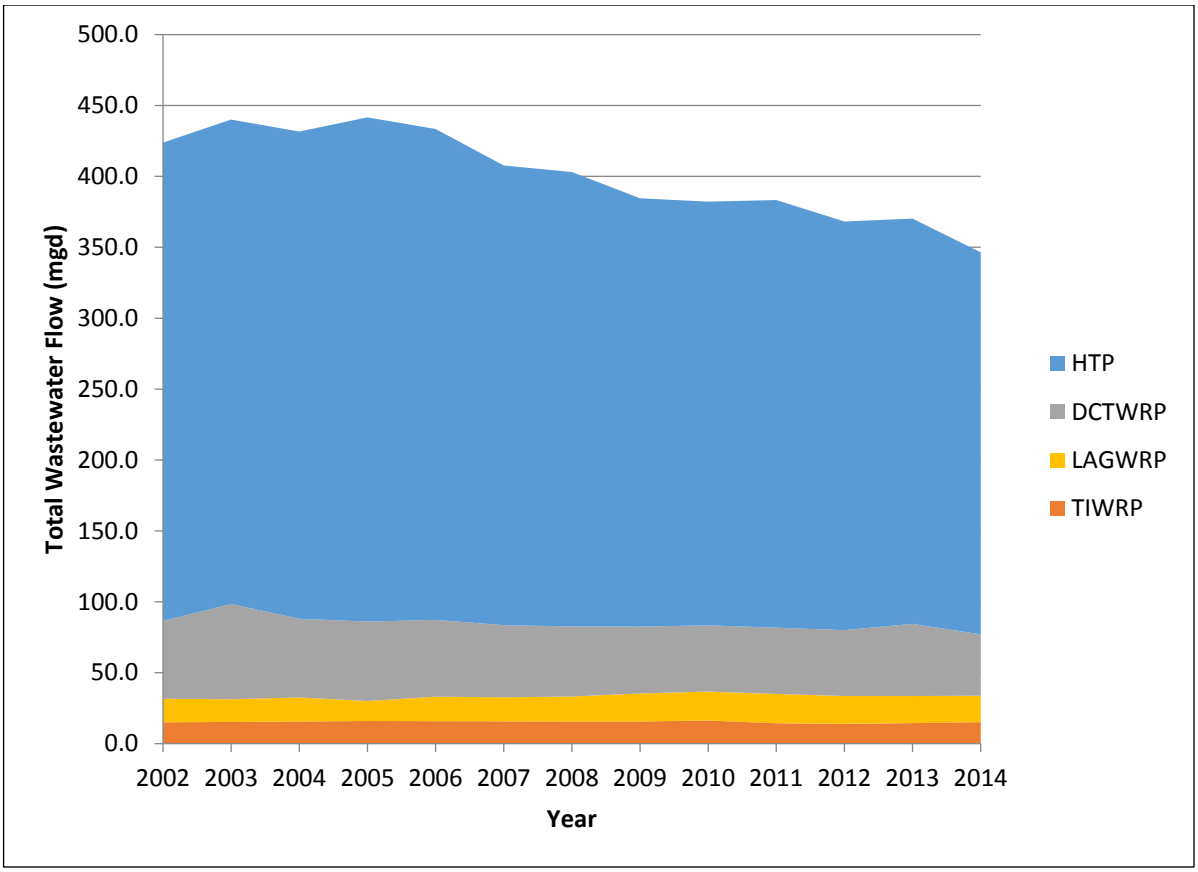

Figure 1 City of Los Angeles Wastewater Flow Trends

As shown on Figure 1, the majority of the reduction in wastewater flows occurred at HWRP. The flows at DCTWRP, LAGWRP, and TIWRP stayed relatively constant. Constant flows rates are expected at DCTWRP and LAGWRP, as these plants function as scalping plants for HWRP. Both DCTWRP and LAGWRP dropped slightly in the last year due to increased conservation. TIWRP remained relatively constant due to the makeup of the sewershed.

The expected future wastewater flows are summarized in Table 3. As shown, the City's wastewater flows are expected to increase by 13 percent from 328 mgd in 2016 to 376 mgd in 2040.

Table 3 Projected Wastewater Flows by Plant (Normal Year) One Water LA 2040 Plan – TM 2.2				
Water Reclamation Plant (WRP)	**Projected Wastewater Flows by Year[1,2,3]**			
	2016	**2020**	**2030**	**2040**
Hyperion	250 mgd	256 mgd	275 mgd	283 mgd
Donald C. Tillman	47 mgd	46 mgd	51 mgd	53 mgd
Los Angeles-Glendale	17 mgd	21 mgd	22 mgd	22 mgd
Terminal Island	14 mgd	16 mgd	18 mgd	18 mgd
Totals[4]	**328 mgd**	**339 mgd**	**366 mgd**	**376 mgd**

Notes:
(1) Flows are rounded to the nearest mgd.
(2) These LFDs are assumed to be implemented starting in Year 2030.
(3) mgd = million gallons per day
(4) Information further documented in the Wastewater Facilities Plan (Volume 2 of the One Water LA 2040 Plan)

2.3.2 Flow Equalization Needs

Flow equalization can be used to mitigate the swings in flow variation at the treatment plant. Depending on the location of the flow equalization in process stream, the amount of flow required to be equalized can vary greatly. In the event of equalizing flow for advanced treatment, equalization can be provide upstream of the advanced treatment plant or downstream, equalizing the product water. If equalizing prior to the advanced water treatment (AWT) it is important to understand the low flows and the ability to provide the required flow to the process units and the balance of the plant. The City is exploring the use of diverted dry-weather flows from major drains to aid in the wastewater plant equalization.

2.3.3 Re-routing Sewer Flow Options

As described in Section 2.1.1 the City is planning to implement the GWR Project in the San Fernando Basin, utilizing up to 30,000 AFY of recycled water from the DCTWRP. To maximize the treatment capacity at this plant and the recharge capacity of this project, the City conducted a study to divert up to 11.4 mgd of additional wastewater to DCTWRP from the eastern part of the San Fernando Valley under average dry weather flow conditions by year 2050. This flow rate is projected to increase to 14.0 mgd by year 2090. The goal of this so called "*East-West Valley Interceptor Sewer Study*" (or EWVIS Study) was to evaluate of various pipeline alignments and recommend an alignment to divert flow from the North Hollywood sanitary sewer basin to DCTWRP. The EWVIS study was finalized in January 2017 (Arcadis, 2017). The alternatives were prioritized based on wastewater flow, right-of-way requirements, utility conflicts, traffic issues, environmental concerns, soil conditions, permitting requirements, need for new lift stations, diversion structures, and odor potential. The final recommended project consists of a 18-inch to 30-inch diameter pipeline that

extends 6 miles along Victory Boulevard from Vineland Avenue to the DCTWRP as shown in Appendix B. The estimated cost of this project is $85 million.

The ultimate benefits of this project will need to be compared with other supply options that can contribute to the City's local water supplies to meet the Mayor's goal of 50 percent reduction of imported supplies by year 2025.

2.3.4 Stormwater Diversions & Nuisance Flows

In addition to wastewater flows from indoor water use and sewer flows from contracting agencies, the City's sewer system diverts stormwater and dry-weather urban runoff to its treatment plants. These stormwater flows enter the sewer system via dry weather diversion structures (aka low flow diversions) as well as via stormwater infiltration. The amount of stormwater infiltration varies greatly between normal, wet, and dry year conditions. Although these flows are difficult to calculate due to lack of telemetry, the following lists the approximate (rounded) flows that were calculated using methods described in TM 2.1.

- Normal Year Low Flow Diversions: 1,500 AFY
- Normal Year Stormwater Infiltration: 20,000 AFY
- Wet Year Stormwater Infiltration: 30,000 AFY
- Wet Year Low Flow Diversions: 2,300 AFY
- Dry Year Low Flow Diversions: 600 AFY
- Dry Year Stormwater Infiltration: 3,600 AFY.

Hence, the estimated combined amount of dry weather runoff and stormwater infiltration during normal years is 21,400 AFY, while this amount can increase as much as 32,300 AFY during wet years and decline to as little as 4,200 AFY.

2.4 Recycled Water

The City of Los Angeles has an extensive recycled water program and strives to continue to expand the program to improve water reliability. In 2006, LADWP teamed with LA Sanitation to prepare an IRP, which specifically addresses recycled water in the City. The objectives of the recycled water program as stated in the 2015 Recycled Water Annual Report are:

- Increase supply of recycled water to offset potable demand
- Maintain current and connect new recycled water customers
- Expand the non-potable reuse (NPR) purple pipe network
- Implement the GWR project

- Explore
  - Soil aquifer treatment (SAT)
  - Satellite treatment options
  - Potable reuse with groundwater augmentation (formerly known as Indirect Potable Reuse or IPR)
  - Potable reuse with raw or treated water augmentation (formerly known as Direct potable reuse or DPR)
  - New treatment technologies
- Increase outreach and support for the City's recycled water program

Through the development of the 2012 Recycled Water Master Planning Documents (RWMP) and the 2015 UWMP, the City has outlined the approach to expanding the recycled program. This section of the technical memorandum describes the anticipated future recycled water demands, and potential indirect and direct potable reuse options.

2.4.1 Future Title 22 Customers

The UWMP established a goal of increasing recycled water use to 59,000 AFY by 2035. Currently, recycled water is produced by three of the City owned wastewater treatment plants, DCTWRP, LAGWRP, and TIWRP. Additionally, the City provides secondary effluent from HWRP to the Edward C. Little Water Recycling Facility (ECLWRF) which is owned and operated by West Basin Municipal Water District (WBMWD).

The current uses for the recycled water include direct use for irrigation or industrial purposes, and environmental uses. Table 4 summarizes the projections for recycled water use in each category through the year 2040. As shown in Table 4, the use of recycled water is expected to increase significantly from approximately 36,500 AFY in 2015 to more than 100,000 AFY by year 2040. Expansion of the purple pipe system from direct use and groundwater recharge in the San Fernando Basin is expected to increase recycled water use each by approximately 30,000 AFY.

Table 4 Projected Recycled Water Use by Use Type
One Water LA 2040 Plan – TM 2.2

Year	2014/15	2015	2020	2025	2030	2035	2040
Direct Use	10,421	10,700	19,800	29,000	39,000	42,200	45,400
Groundwater Recharge	0	0	0	30,000	30,000	30,000	30,000
Environmental Uses	26,317	25,800	26,740	26,740	26,740	26,740	26,740
Total	**36,738**	**36,500**	**46,540**	**85,740**	**95,740**	**98,940**	**102,140**

The City can be divided into four service areas based on the source of supply. The following lists each of the four areas with the plant that provides its recycled water:

- Metro System – served from LAGWRP;
- Valley System – served from DCTWRP;
- Harbor System – served from TIWRP; and
- Westside system – served from WBMWD's ELCWRF which receives secondary effluent from HWRP.

The RWMP recommended new projects for all four service areas. These projects were selected based on an analysis of the most likely target customers, their potential water use, and which recycled water systems could best meet demands. Potential new recycled supplies were also identified and include:

- Purchasing recycled water from nearby agencies, such as Las Virgenes Municipal Water District (LVMWD), WBMWD, and Central Basin Municipal Water District (CBMWD);
- Exchanging stored water credits in the San Fernando Basin with Burbank Water and Power for recycled water; and
- New satellite treatment facilities.

The potential recycled water demand per area and year is summarized in Table 5. As shown, the use of recycled water from all treatment plants is expected to increase. Some of the key changes in recycled water use to achieve more than 100,000 AFY by year 2050 are as follows:

- DCTWRP: 30,000 AFY of groundwater recharge in the San Fernando Basin.
- LAGWRP: Expansion of the purple pipe network with large customers such as Roosevelt Golf Course, Elysian Park, Matchmaster and USC.
- TIWRP: Expansion of the purple pipe network with industrial and irrigation customers. Dominguez Gap Seawater Barrier Expansion, and environmental flows to Machado Lake by 2017.
- HWRP: Expansion of the purple pipe network with large customers such as Scattergood Generation Station, Los Angeles International Airport (LAX), and Playa Vista Development and 11,000 AFY expansion of recycled water use for the Harbor Area.
- Non-LASAN: 8,300 AFY includes the City of Burbank and Las Virgenes (via the Tapia Water Reclamation Plant).

Table 5 Projected Recycled Water Use by Plant One Water LA 2040 Plan – TM 2.2					
Year/Recycled Water Source	**2020 (AFY)**	**2025 (AFY)**	**2030 (AFY)**	**2035 (AFY)**	**2040 (AFY)**
DCTWRP	3,400	33,400	33,400	33,400	33,400
LAGWRP	3,600	6,200	6,200	6,200	6,200
TIWRP	11,300	11,500	11,500	11,500	11,500
HWRP	1,100	1,300	3,400	4,000	5,000
Non-LASAN	400	600	3,500	6,100	8,300
HWRP Expansion to Harbor Area	0	6,000	11,000	11,000	11,000
Total	**19,800**	**59,000**	**69,000**	**72,200**	**75,400**

2.4.2 Potable Reuse with Groundwater Augmentation

The City's current demand for recycled water is largely by irrigation customers who require the water to be treated to Title 22 standards. The City also sells advanced treated recycled water to the Water Replenishment District of Southern California for injection into the sea water intrusion barrier, the Dominguez Gap Barrier. Potable Reuse with Groundwater Augmentation, previously referred to as IPR, can be accomplished in multiple ways, including spreading grounds, surface water augmentation, and direct subsurface injection. The San Fernando Basin is an option whereby the use of the Hansen or Pacoima Spreading Grounds would recharge the groundwater basin. Subsurface injection could also be used, but would require the construction of injection wells.

The RWMP identified areas for potential groundwater recharge considering both surface spreading and injection wells. These projects are summarized in Table 6, which shows the location, type, and quantity of recharge.

IPR using surface water augmentation would require a reservoir or body of water to provide a natural buffer. The Encino Reservoir, owned by LADWP, could be a conceptual option for a surface water augmentation.

The Las Virgenes-Triunfo Joint Powers Authority (JPA) has conceptually considered using the Encino Reservoir as part of surface water augmentation. Currently, the JPA treats wastewater at the Tapia Water Reclamation Facility (Tapia) to produce recycled water. At certain times in the year, there is not enough demand to consume the supply of recycled water created at Tapia. The JPA has considered several alternatives for the use of Tapia's excess recycled water. One conceptual alternative is to further treat the recycled water at a new potable reuse water treatment plant and deliver it into the Encino Reservoir. LADWP could then withdraw water from the reservoir, treat it as necessary and utilize the water as appropriate to offset potable demands.

Table 6 Potential Groundwater Recharge Areas
One Water LA 2040 Plan – TM 2.2

Basin	Recharge Facility	Possible Recycled Water Replenishment
Valley Service Area		
San Fernando Basin	Spreading Grounds	52,000 AFY(1)
Raymond Basin(2)	Spreading Grounds Injection Wells	5,000-10,000 AFY 5,000-10,000 AFY
Metro/Westside Service Area		
Central Basin		
Los Angeles Forebay	Injection Wells	40,000 AFY
Montebello Forebay	Spreading Grounds with Recovery	25,000 AFY
Harbor Service Area		
West Coast Basin - Southern	Injection Wells	Up to 50,000 AFY

Source: 2012 Recycled Water Master Planning documents

Notes:

(1) Assumes a groundwater capacity of 57,800 AFY, but replenishment is supply-limited to 30,000 AFY from DCTWRP (for GWR project) plus 22,000 AFY from LAGWRP (for a total of 52,000 AFY)

(2) Projects in Raymond Basin are assumed to be mutually exclusive to projects in the San Fernando Basin

2.4.3 Potable Reuse with Raw or Treated Water Augmentation

The regulations for Potable Reuse with raw or treated water augmentation, previously referred to as DPR, are still in development in the State of California. Potential potable reuse projects could include the following:

- Potable reuse with raw water augmentation prior to delivery - Projects that would deliver advanced treated recycled water (purified water) to a conventional water treatment plant before distributing into a potable water system.
- Potable reuse with treated water augmentation prior to delivery into the potable water distribution system - Projects that would deliver advanced treated recycled water (purified water) directly to a potable water system.

2.4.4 Potable Reuse with Surface Water Augmentation

Regulations for potable reuse through the augmentation of raw water supplies such as reservoirs are in final draft form and are near completion. The public comment period recently ended (September, 2017) and the regulations are pending finalization and approval of the Office of Administrative Law. The final draft regulations build on the

regulations for groundwater recharge, and similarly require full advanced treatment to achieve removal of pathogens and chemical contaminants.

2.4.5 Recycled Water Summary

The expected future conditions for recycled water are summarized in Table 7. As shown the City's use of recycled water is expected to increase from 36,500 AFY to more than 100,000 AFY. It should be noted that this summary includes environmental uses and the total is therefore higher than listed in Table 5.

Table 7 Recycled Water Flow Summary
One Water LA 2040 Plan – TM 2.2

Use Category	Existing Capacity (AFY)	New Projects (AFY)	Future Yield (AFY)
Direct Use	10,700	34,700	45,400
Environmental	25,800	940	26,740
Potable Reuse with Groundwater Augmentation	0	30,000	30,000(1)
DPR	0	TBD	TBD
Totals	**36,500**	**65,640**	**102,140**

Note:
(1) This number is based on the San Fernando Valley Basin Recharge Project, there are other projects that may increase this number.

2.5 Stormwater and Dry-Weather Runoff

The City of Los Angeles is committed to implementing stormwater capture programs to increase local water supply, offset the demand on potable water supplies, and reduce the need for imported water. This section of the technical memorandum summarizes the work that has been completed to date and projects that have been identified through the SCMP, Enhanced Watershed Management Program (EWMP), Street Programs, and the Federal Emergency Management Agency (FEMA) Flood Plain Designation.

2.5.1 Stormwater Capture Master Plan

Water that supplies Los Angeles is growing scarce due to various challenges such as environmental commitments, drought, low snow pack, and judicial decisions. The City of Los Angeles is currently working to increase the local water supply and reduce the dependence on imported water. Capturing and reusing stormwater can help offset the demand for potable water. Due to the urbanization of the City of Los Angeles most of the precipitation that falls on the City flows into storm drains and out to the ocean.

According to LADWP's SCMP, adopted in August 2015, LADWP currently captures and recharges approximately 29,000 AFY of stormwater. Another 35,000 AFY infiltrates into the potable aquifer through incidental recharge. These numbers equate to approximately 10 percent of the City's annual water demand.

The SCMP has demonstrated that the City can capture an additional 68,000 to 114,000 AFY, through the implementation of a portfolio of projects. The variation in the amount captured depends on funding, public awareness, and the ability to advance stormwater capture initiatives. The implementation of these stormwater projects is important not only to create a local supply and reduce dependence on imported water but to address many other challenges: meeting federal water quality mandates, providing enhanced flood protection, reducing peak flows in the region's waterways, providing green space for habitat and recreation, and providing climate change mitigation and adaption opportunities.

2.5.2 EWMPs

EWMPs are utilized to enhance water quality planning and compliance efforts. The City of Los Angeles contains watersheds covering the entire city including the Upper Los Angeles River (ULAR), Ballona Creek, Dominquez Channel, Santa Monica Bay and Marina Del Rey watersheds. Each watershed serves multiple purposes (e.g. wildlife habitats, municipal and domestic water supplies, recreation and commercial uses, along with many others). These watersheds are prone to water quality issues, which the implementation of the EWMP seeks to mitigate. The National Pollutant Discharge Elimination System (NPDES) requires each watershed area under the Municipal Separate Storm Sewer System (MS4) Permit Order No. R4-2012-0175 to ensure that water quality objectives for receiving waters are met.

EWMPs apply a multi-pollutant approach in each watershed to control total maximum daily loads (TMDL) of metals and bacteria that cause negative impacts on aquatic life and potential health risks for the surrounding communities. Once water quality priorities have been identified, watershed control measures are selected to reduce the impacts of stormwater and non-stormwater on receiving water quality. Control measures are certain Best Management Practices (BMPs) that address water quality issues and may include:

- **Low Impact Development (LID) –** bioretention, permeable pavement, etc. that capture, infiltrate and/or treat runoff
- **Green Streets –** structural practices such as linear bioretention/biofiltration installed parallel to roadways
- **Regional Projects –** areas that receive large volumes of runoff utilized for infiltration and pollutant reduction through BMPs

Reasonable Assurance Analysis (RAA) is used to demonstrate that the implementation strategy of each EWMP addresses the water quality priorities.

EWMPs generally cover the same water quality priorities and watershed control measures but distinguishing characteristics of each watershed are as follows:

- ULAR EWMP
  - Includes Cities of Los Angeles, Alhambra, Burbank, Calabasas, Glendale, Hidden Hills, La Canada Flintridge, Montebello, Monterey Park, Pasadena, Rosemead, San Fernando, San Gabriel, San Marino, South El Monte, South Pasadena and Temple City; unincorporated areas of Los Angeles County; and the Los Angeles County Flood Control District (LACFCD)
  - Encompasses 485 square miles of watershed and over 50 miles of mainstream Los Angeles River
  - Multi-pollutant approach maximizes the retention and use of urban runoff as a resource for groundwater recharge and irrigation while also creating additional benefits for the communities in the ULAR watershed
  - TMDL for metals requires compliance by 2028 – metals lead to negative impact on aquatic life
  - TMDL for bacteria requires compliance by 2037 – elevated bacteria concentrations pose potential health risks to people that live near watershed
  - LID, green streets and regional BMPs
- Ballona Creek EWMP
  - Includes Cities of Los Angeles, Beverly Hills, Culver City, Inglewood, Santa Monica, and West Hollywood; unincorporated areas of Los Angeles County; and the LACFCD
  - Land use of watershed is dense and heavily urbanized
  - TMDL metals and bacteria by 2021
  - Pollutant control is difficult but provides multiple benefits to community and leverages sustainable green infrastructure practices
  - Network of LID, green streets and regional BMPs equates to more than eight Rose Bowls of BMP capacity
- Dominguez Channel EWMP
  - Includes cities of El Segundo, Hawthorne, Inglewood, Lomita and Los Angeles; unincorporated areas of Los Angeles County; and the LACFCD
  - Watershed Management Area encompasses 133 square miles of land and water
  - Fully built-out area with high percentage of impervious area except in southwest
  - TMDL toxics by 2032
  - Tributary to Dominguez Channel, Machado Lake, and Los Angeles Harbor

- Santa Monica Bay EWMP
  - Includes cities of Los Angeles, Santa Monica, and El Segundo; unincorporated areas Los Angeles County; and the LACFCD
  - Includes urbanized Dockweiler and Santa Monica subwatersheds as well as natural open space located in Castle Rock, Pulga Canyon, Temescal Canyon and Santa Monica canyon watersheds
  - TMDL bacteria by 2021
  - Encompasses 25,238 acres
  - Approximately 49 percent of the area is open space, of which 93 percent is located in the northern natural portion of the subwatersheds
- Marina del Rey EWMP
  - Includes cities of Culver City and Los Angeles, and unincorporated areas of Los Angeles County
  - Encompasses 1,409 acres
  - Smallest Watershed Management Area in the county
  - Has most aggressive TMDL schedules for toxics and bacteria
  - TMDL toxics by 2018 and bacteria by 2021
  - Green Streets projected 51.2 percent of all load reductions – the largest reduction by any BMP category
  - Total volume of stormwater captured/treated by BMPs is 603.5 AF/wet year

Many of the proposed EWMP projects have multiple benefits. These projects will meet the requirements of the MS4, strive towards cleaner oceans, beaches, and rivers but will also create green space within the City.

2.5.3 Street Programs

There are a large number of green street and tree programs in the City. Each program has its own objectives, project components, agencies involved, funding sources, and implementation timeline. A detailed summary of these programs is included in TM 1.3, while a brief description of the major programs is listed below:

- **Great Streets –** Led by Great Streets Studio at Mayor's office, the Great Streets Program was created as a result of Mayor Garcetti's Executive Directive 1. A working group was developed the Selection criteria. In close collaboration with Council Offices, the program seeks to leverage various City department improvement efforts and concentrate them on specific corridors.
- **Green Streets –** Led by LASAN, the Green Streets Program was initiated to develop standard plans and specification for designs streets and sidewalks to capture runoff and infiltrate it through a variety of best management practices including landscaped

bioswales with drought tolerant plants, permeable pavements, and sub-surface infiltration systems.

- **Main Streets –** Led by California Department of Transportation (Caltrans), the Main Streets is an informational guide published in 2013 that reflects many of the recent updates to Caltrans manuals and policies that improve multi-modal access, livability, and sustainability within the transportation system.

- **Complete Streets –** Led by the Department of City Planning (DCP), the Complete Streets Program is a movement centered on redesigning streets so that they better accommodate multiple users. DCP revised and renamed LA's Transportation Element as Mobility Plan 2035, which is the primary vehicle for the City to create Complete Streets. The Plan is a guidance document with conceptual designs for streets. A "Complete Streets Design Guide" is Companion to the Mobility Plan 2035.

- **People Streets –** Led by the Department of Transportation (LADOT), the People Streets Project is an outgrowth of Living Streets/Streets for People's efforts originally let by the NGO Green LA. Rebranded as People Streets, this program allows residents, business owners and non-profits to ask for and plan projects that convert portions of the street to bike corrals, parklets or plazas. Applicants must use design specifications contained in Design Guides.

- **GRASS –** Greenways to Rivers Arterial Stormwater System (GRASS) is a design tool to assist design engineers developing projects to detain, retain, and distribute and reuse stormwater in a more regionally significant, scale-able, and systemic way. The primary program goal is to create a priority grid of stormwater capture greenways.

- **Green Alleys Program –** Led by the LA Trust for Public Land, the Green Alleys Program effort began as a study led by USC with Trust for Public Land (TPL), Bureau of sanitation, and Pacoima Beautiful as partners. TPL received grant to implement a pilot network. A Green Alleys Master Plan for South LA and the Avalon Alley pilot network have been completed as part of this program.

- **Living Streets –** Led by members of Green LA Water Committee with Heal the Bay as lead, the Living Streets Program is a comprehensive strategy that combines Green Streets (stormwater capture) Complete Streets (mobility) and Cool Streets (reflective pavement) elements. Living Streets Cost/Benefit Analysis, accompanying set of policy recommendations, and two pilot case studies are in development.

- **Green Infrastructure –** City of Los Angeles Sanitation has undertaken a number of efforts to better manage stormwater and urban runoff. Many of them focus on implementing green infrastructure (GI) – the use of green and natural solutions such as cisterns, rain gardens, dry wells, and wetlands – to efficiently manage stormwater, prevent stormwater pollution, offset potable water use, improve flood control, and

augment green spaces within the City. The three components of the GI Program are: 1) Rainwater Harvesting; 2) Green Streets and Green Alleys; and 3) Waterways, Lakes, and Wetlands. The GI Program supports the Water Quality Compliance Master Plan for Urban Runoff (WQCMPUR), which was adopted by the Board of Public Works in April 2009 and National Pollution Discharge Elimination System Permit (MS4 Permit) adopted by the Los Angeles Regional Water Quality Control Board (RWQCB) and became effective on December 28, 2012. GI projects are identified in the EWMP for implementation to meet MS4 permit requirements. These plans provides for a 20-year strategy for clean stormwater and urban runoff to protect the City's rivers, lakes and beaches from pollution. It seeks a broad watershed based perspective and promotes GI to improve water quality and bring Los Angeles into compliance with current and emerging water quality regulations. The GI Program is also in line with recommendations of the Integrated Resources Plan, Stormwater Capture Master Plan, and is being integrated into the One Water LA 2040 Plan, which will be completed in January 2017.

The implementation of many of the street programs will improve street drainage, capture stormwater, which will reduce the pollutant load in rivers and ocean, as well as increase the amount of incidental infiltration into the groundwater basins. This will ultimately led to a reduction of the reliance on imported water.

2.5.4 FEMA Flood Plain Designation

In the development of multi-benefit projects to manage water within the City of Los Angeles, flood hazard information produced by the FEMA is a valuable resource for identifying zones of concern and determining where flood control infrastructure is required to protect public welfare. FEMA operates a national flood hazard mapping program that identifies flood hazards and assesses flood risk. Using this information, FEMA partners with states and communities to provide accurate flood hazard and flood risk data to help guide mitigation actions. New mapping and designations can provide impact future conditions including project siting and Best Management Practice selections

As part of the Risk Mapping, Assessment, and Planning (Risk MAP) program, FEMA maintains and updates flood insurance rate maps (FIRMs) and produces flood insurance studies (FIS). FIRMs include statistical information such as data for river flow, storm tides, hydrologic/hydraulic analyses, and rainfall and topographic surveys. In particular, FIRMs outline special hazard areas and risk premium zones to indicate the flood risk to home and business owners within a community. Once flood studies are complete, an FIS report is developed to compile and present the flood risk data for specific communities. FIS, FIRM panels, and other FEMA flood hazard products are available through the FEMA Flood Map Service Center (MSC): https://msc.fema.gov/portal. The FEMA MSC allows a user to search for Effective, Pending, Preliminary, and Historical flood hazard products based on geographic location.

Currently, the Risk MAP program has initiated flood studies/mapping projects in coastal areas in an effort to address gaps in required engineering and mapping for high flood risk areas impacted by coastal flooding. These special flood studies/mapping projects are collectively referred to as the California Coastal Analysis and Mapping Project (CCAMP). Of relevance to Los Angeles County is the CCAMP Ocean Pacific Cost Study, which will be used to remap the coastal flood risk and wave hazards and to revise the Los Angeles County Flood Insurance Study report and FIRM panels along the coast. Los Angeles County specific project documents for the CCAMP Ocean Pacific Coast Study can be obtained using the following link: Open Pacific Coast Study, Los Angeles, CA.

2.6 Climate Change

Phase I of One Water L.A. acknowledged the Water Management Challenges and stated that "88 percent of L.A. water supplies are impacted by climate change, environmental and legal issues." This statement reflects the need to look at solutions broader in nature than a typical water supply planning study - solutions that consider co-benefits of water, wastewater, stormwater, recycled water, and biosolids projects that cross the boundaries of water, air, and land. The likely impacts climate change poses to the City within the time horizon of One Water L.A., and that will be further investigated as part of this effort, include:

1. Increase in atmospheric and source water temperature, leading to changes in available snow pack, storage, and imported water.
2. Increased frequency of prolonged droughts leading to increased water demand and possible decrease in availability of recycled water due to water conservation efforts.
3. Increase in sea (tide) level and/or extreme events (storm surge/precipitation) causing inundation/flooding of critical collection and conveyance/distribution systems, treatment facilities, and pump station operations equipment.

The City has already completed several recent comprehensive studies and regional modeling efforts to identify the types of impacts (such as those listed above) and level of risk its infrastructure are expected to face using the latest climate science, regional data, and downscaled models. From this, the City began development of its adaptation plan (a.k.a., ClimateLA), which led to ongoing evaluation and documentation of impacts online via the Climate Change L.A. website (an effort led by Climate Resolve teamed with the City of Los Angeles and University of California - Los Angeles' Institute of the Environment and Sustainability). Additionally, the Los Angeles Basin Stormwater Conversation Study was performed by the Bureau of Reclamation, the Los Angeles County Flood Control District, and the LADPW on the Los Angeles Basin. One Water L.A. will build upon those studies to bring specific focus on impacts to wastewater/stormwater/recycled water infrastructure. This broad look will identify gaps in the previous studies (i.e., the vulnerability of any infrastructure not already considered), prioritize needed actions to protect the infrastructure (e.g., raising or enclosing pump stations), and result in an overall timeline and trigger monitoring program to serve as a guide for City projects.

The subsections below provide a high level summary of the expected future conditions considered as part of this planning effort for the evaluation of impacts to wastewater/storm water/recycled water infrastructure due to climate change. More in depth analysis and details of the resulting impacts, as well as potential approaches for adapting infrastructure and operations, will be provided in subsequent technical memorandums.

2.6.1 Increased Temperatures

Studies led by Climate Resolve and University of California Los Angeles (UCLA) have been completed and results have been reported as recently as the 2015 calendar year on projected and potential changes (i.e., increases) in temperature the City of L.A. will experience. By mid-century (2041-2060), the temperature is expected to be 3 degrees Fahrenheit (°F) warmer on average (whether action to reduce greenhouse gas emissions is taken or not) and by end of this century (2100) average temperatures could increase by as much as 10°F if no action is taken.

The temperature data for scenarios considered by the UCLA team show coastal areas warming less than inland areas and mountainous areas warming the most. On average, mountainous areas experience up to 200 days per year of freezing temperatures - this could drop by as much as 50 - 90 days per year (provide reference from here) assuming no greenhouse gas reductions. Of specific concern for One Water L.A., is the impact this change in number of days of freezing temperatures could have on the availability of imported water associated with changes in snow pack, storage, and source water conditions. In addition, there is concern about increased frequency of prolonged drought conditions and how these conditions (for example, 15 to 20 years of continuous drought with annual state-wide precipitation at 75 percent of normal) will be managed in order to prevent water shortages. These types of impacts will be examined and potential adaptation measures identified in more detail as part of One Water L.A.

2.6.2 Sea Level Rise/Flooding

The City of L.A. has teamed with the University of Southern California (USC) Sea Grant Program and a group of science and outreach experts to examine and begin preparation for the potential acceleration of sea level rise and associated storm impacts due to climate change. The study was completed in 2013 and found that sea level rise in the L.A. region is expected to match global projections with an increase of 0.1 - 0.6 meter (5 - 24 inches) from 2000 to 2050 and 0.4 - 1.7 meters (17 - 66 inches) from 2000 to 2100 (NRC 2012). Wave-driven run-up and storm surge can also cause coastal flooding in Southern California, especially at or near peak high tides.

As part of the USC program, a model developed by the U.S. Geological Survey (USGS) was used to examine the impacts of rising sea levels across the service area while also taking into account flood impacts from storms and high tides (that will potentially be exacerbated by sea level rise). The focus of the One Water L.A. effort is to use the

information from the model to identify which critical assets may be vulnerable to coastal flooding and determine what is necessary for maintaining their functionality and compliance during flood events.

2.6.3 Extreme Precipitation/Flooding

It is necessary to understand trends in both total precipitation and types of precipitation events (i.e., intensity, duration, and return frequency) for proper design, protection, and reliable operation of critical facilities, including conveyance and distribution systems. A study led by UCLA was released in December 2014 taking into account the latest science and data using downscaled global circulation models to examine how climate change will affect precipitation patterns in southern California. Simulations were run for the wet season (i.e., December through March) for 1981 to 2000 and two future periods - 2041 to 2060 and 2081 to 2100 - assuming no reductions in greenhouse gas emissions. Some model runs showed slight decreases in total precipitation, while others showed slight increases - overall, little to no change in total precipitation is expected through the end of the century (2100). However, more precipitation is expected to fall as rain instead of snow, which means greater risk of flooding (in river systems, collection/conveyance systems, etc.) and a decreased chance of capturing the water. Existing infrastructure and operations need to be evaluated under these projected conditions to determine whether any actions should be taken to protect it and maintain reliable service to customers and regulatory compliance.

3.0 EXPECTED FUTURE REGULATIONS

Regulations for the use, reuse, and disposal of all sources of water are summarized in this section of the technical memorandum. This section discusses existing, near term and long term regulations and the potential impacts on the One Water LA vision.

3.1 Wastewater

The City owns and operates the following wastewater treatment facilities:

- **DCTWRP –** tertiary treatment with nitrification denitrification - discharge to Los Angeles River through beneficially reused lakes and operational safety weir
- **LAGWRP –** tertiary treatment with nitrification denitrification - discharge to Los Angeles River through operational safety weir
- **TIWRP –** tertiary treatment - discharge to Los Angeles Harbor
- **HWRP –** secondary treatment - discharge to Santa Monica Bay

The City also owns an extensive wastewater collection and conveyance system which connects customers to the treatment facilities.

U.S. Environmental Protection Agency (EPA), State Water Board or Regional Water Board laws, regulations, policies or requirements – implemented through NPDES permits, Waste Discharge Requirements and TMDLs – are the primary drivers for future additional collection and treatment costs or project restrictions.

3.1.1 Near-Term

The following requirements are in place through adopted laws, policies, NPDES permit requirements, or TMDLs. Costs associated with these requirements have not yet been incurred:

- **Sanitary sewer overflow (SSO) controls –** General Water Discharge Requirement - (State Water Resources Control Board [SWRCB]) – Could result in significant additional expenditures to further reduce SSOs
- **Sediment quality objectives for Bays and Estuaries (SWRCB) –** Could increase costs for operation of Terminal Island treatment facility if sediment quality is affected by effluent discharges
- **California Water Code Section 1211 (SWRCB) –** Could limit ability to divert discharge from Los Angeles River for recycling, recharge or indirect/direct potable reuse projects
- **TMDLs (RWQCB) –** Los Angeles/Long Beach Harbor Toxics - Costs to comply with wasteload allocations may be significant
  - DCTWRP – Metals, Nutrients, Bacteria, and Trash - LA River TMDL
  - LAGWRP – Metals, Nutrients, Bacteria, and Trash - LA River TMDL
  - TIWRP – Metals, Bacteria, and Toxics – LA Harbor TMDL
  - HWRP – Trash, Bacteria, Toxics – Santa Monica Bay TMDL
- **2013 Ammonia criteria for protection of freshwater aquatic life (EPA/RWQCB) –** New Basin Plan water quality objectives resulting from the 2013 ammonia criteria could result in increased treatment costs to comply with potentially more stringent effluent limits in NPDES permits for discharges to the Los Angeles River
- **Brine discharge requirements - Ocean Plan - adopted in May 2015 (SWRCB) –** Could result in limitations on the volume of brine discharge or increased costs for blending or brine treatment prior to discharge

The following policies are under development and could result in significant new costs to the City. While cost impacts are listed individually, the costs would not necessarily be additive, i.e. costs in response to one requirement may also address other requirements:

- **Nutrient Policy for Inland Surface waters (SWRCB) –** Could result in increased costs associated with construction and operation of enhanced nutrient removal facilities or membrane treatment for discharge to the Los Angeles River
- **Toxicity Policy for Inland Surface Waters (SWRCB) –** Could increase compliance costs and penalties for discharge to the Los Angeles River
- **Biological objectives for Inland Surface Waters (SWRCB) –** Could result in increased treatment requirements for discharge to the Los Angeles River
- **Mercury Policy (SWRCB) –** Could result in new treatment costs for discharges to Los Angeles River or Los Angeles Harbor

3.1.2 Long-Term

The following policies are not currently under development but can be envisioned as a future regulatory requirement:

- **California Toxics Rule (CTR) pollutants (EPA/SWRCB) –** Adoption of new national criteria could lead to new standards in the CTR, which could result in increased treatment costs for discharge to the Los Angeles River, Los Angeles Harbor, or Santa Monica Bay associated with metals or trace organics removal
- **Current Use Pesticides (SWRCB/RWQCB) –** New water quality objectives for pyrethroids and other current use pesticides could result in effluent limits leading to increased costs of treatment for discharge to the Los Angeles River
- **Constituents of Emerging Concern (CECs) (SWRCB/RWQCB) –** CECs (including pharmaceuticals, personal care products, and other currently unregulated chemicals) could be adopted as water quality objectives and effluent limits in NPDES permits resulting in increased costs associated with membrane treatment and enhanced oxidation for discharge to the Los Angeles River, LA Harbor and/or Santa Monica Bay

Impact on One Water Vision

A number of the regulatory requirements listed above may result in additional costs to achieve compliance for surface water discharge. From one perspective, this takes resources away from and complicates the feasibility of the One Water Program., some of these requirements have the effect of changing the economics of ongoing discharge in favor of components of the One Water program (e.g., direct or indirect potable reuse, groundwater replenishment).

3.2 Recycled Water

The use of recycled water is carefully regulated under several state laws and regulations to protect public health and water quality. The State Water Resources Control Board Division of Drinking Water (DDW) has regulatory oversight of recycled water projects in California.

Depending on the level of treatment, recycled water is categorized by its use: non-potable reuse and potable reuse. Potable reuse, in turn, includes subcategories of groundwater augmentation, surface water augmentation, raw water augmentation, and treated water augmentation depending on the delivery point of recycled water in the potable water cycle.

3.2.1 Near-Term

The recycled water regulations are documented in the California Code of Regulations (CCR) Title 22. These regulations are split based on the use of the recycled water and the method of delivery. Potable reuse with groundwater augmentation consists of a series of treatment steps to meet MCLs, water reuse criteria, and basin-specific criteria so that recycled water can be used to replenish drinking water aquifers. Regulations are in place in California for this approach, and multiple systems are in operation throughout the state.

Non-Potable Reuse

The most common method of reuse in California, and already in-place by the City for decades is Non-Potable Reuse. The City is currently implementing some expansions to it NPR system, such as to Elysian Park. In the near-term, this is planned to be expanded further south to Downtown LA. However, further expansions of purple pipe networks will be limited to select sites and areas where economically feasible to avoid the risk of constructing future stranded assets. From a regulatory perspective, NPR must be compliant with regulations set forth in Title 22, which specifies the allowed uses of recycled water at various treatment levels. These treatment levels are defined by both the processes by which the wastewater has been treated, and by water quality criteria for turbidity and indicator microorganisms. The categories include un-disinfected secondary recycled water; various levels of disinfected secondary recycled water; and disinfected tertiary recycled water. The current effluent quality at DCTWRP, LAGWRP, and TIWRP meets these standards. Effluent from TIWRP is of advanced water treatment (AWT) quality, representing higher quality than the baseline non-potable standards.

Groundwater Augmentation with Recycled Water

Using recycled water for groundwater recharge can be accomplished in two ways, namely via 1) surface preading and 2) direct injection. Both of these methods of recharge rely on a significant amount of monitoring to ensure the protection of public health and water quality.

- **Groundwater Recharge – Surface application (i.e., spreading) –** The regulations for spreading basins require the treatment train to consist of at least three separate treatment processes and achieve at least 12-log enteric virus reduction, 10-log

Giardia cyst reduction and 10-log *Cryptosporidium* oocyst reduction. Advanced treatment can be used, or these log removal requirements can be met via a combination of tertiary wastewater treatment and soil aquifer treatment. To claim credit for soil aquifer treatment, studies of travel time in the groundwater basin are required. Using recycled water for groundwater recharge through surface application typically requires some degrees of blending with non-recycled water sources, such as potable water or stormwater. Blending requirements depend on the level of treatment that has been applied to the recycled water. Typically, a project that uses advanced treatment can over time reduce the blending requirement to zero.

- **Groundwater Recharge – Subsurface application (i.e., direct injection) –** The treatment process for direct injection requires full advanced treatment. Treatment requirements for direct injection are more stringent because credit is not granted for soil aquifer treatment, but blending with non-recycled water sources may not be required. Similar to the requirements for spreading basins, the treatment train must consist of at least three separate treatment processes and achieve at least 12-log enteric virus reduction, 10-log *Giardia* cyst reduction and 10-log *Cryptosporidium* oocyst reduction. The advanced treatment steps must also include an oxidation process that achieves 0.5-log reduction of 1,4-dioxane, or a defined removal of other surrogates for trace constituents.

Surface Water Augmentation

Regulations for potable reuse through the augmentation of raw water supplies such as reservoirs are in final draft form and are near completion. The public comment period recently ended (September, 2017) and are pending finalization and approval of the Office of Administrative Law. The final draft regulations build on the regulations for groundwater recharge, and similarly require full advanced treatment to achieve removal of pathogens and chemical contaminants. As currently allowed under these final draft regulations, potable reuse with raw water augmentation consists of full advanced treatment of wastewater, followed by addition to a surface water reservoir for blending into the raw water supply for a drinking water system. Some hydraulic modeling or tracer studies on this reservoir may be necessary, and the requirements for treatment depend on the size of the reservoir into which recycled water is discharged:

- For reservoirs with a hydraulic residence time of at least 180 days, the treatment requirements are similar to the injection well option for a GRRP. This is the default regulatory minimum, and lower residence times can only be approved on a case-by-case basis.
- For reservoirs with a hydraulic residence time of 120 days or less, at least one additional log removal of each category of pathogen is required over and above the 12/10/10 requirement.
- In all cases, the reservoir must have a hydraulic residence time of at least 60 days, to provide for sufficient response time in the event of a treatment system failure.

3.2.2 Long-Term

DPR is the introduction of recycled water directly into a potable water distribution system downstream of a water treatment plant. DPR would provide greater flexibility than indirect potable reuse to supplement some potable water supplies, and there is a growing interest among water utilities, water-related associations, and environmental advocacy groups throughout California.

In December 2016, the SWRCB delivered a report to the California State Legislature related to the feasibility of developing uniform water recycling criteria for direct potable reuse. The report's findings reflect input from two independent groups; an expert panel of scientists and engineers, and an advisory group of stakeholders. The report concluded that it is feasible to develop and adopt regulation for using recycled water as drinking water, provided that certain research and key knowledge gaps are addressed. The adoption of regulations for treat water augmentation/direct potable reuse will not take place until research and knowledge gaps are appropriately dealt with.

It is acknowledged that the use of recycled water for direct potable reuse raises a number of issues about regulatory requirements, health concerns, project management and operation and public perception. To date, no regulations or criteria have been developed or proposed for DPR in California and the practice generally has been considered unacceptable in the past by regulatory agencies in the state due to a lack of definitive information related to public health protection. The DDW serves as the main public health protection arm of state government as it relates to both recycled water and public water systems, and therefore, it would have the authority and responsibility for determining criteria deemed necessary to ensure the safety of direct potable reuse. There is currently an Advisory Group providing consultation to California Department of Public Health (CDPH) on the public health issues, scientific and technical matters in order to develop a uniform criteria for recycling water for DPR.

Impact on One Water Vision

The above regulations expand the opportunities within the City for recycled water and therefor offsetting the potable demand. With some of these regulations the increase in treatment and monitoring cost would need to be balanced with the other water conversation programs.

3.3 Stormwater & Runoff Management

The City owns and operates a separate storm sewer system which is used to manage dry weather and wet weather runoff to surface waters. Runoff to surface waters within the City is regulated by a MS4 NPDES permit issued in 2012 by the Los Angeles Regional Water Quality Control Board.

3.3.1 Near-Term

The following requirements are in place through adopted laws, policies, NPDES permit requirements and/or TMDLs. While initial costs associated with the development of comprehensive Enhanced Watershed Management Programs across the City's watersheds have been incurred, the longer term costs and implications associated with these requirements have not yet been incurred:

- **MS4 NPDES permit (Order No. R4-2012-0175) –** The adopted permit includes a variety of requirements and provisions, including water quality-based effluent limits (WQBELs), receiving water limits, TMDL provisions, and restrictions on groundwater replenishment. The permit encourages multi-benefit BMPs and/or control measures to replenish groundwater supplies.

- **Under the MS4 permit –** the City is allowed to develop and implement an EWMP as an alternative compliance pathway to address watershed priorities. EWMPs provide opportunities for collaboration among Permittees and other parties to implement multi-benefit regional projects. EWMP provisions in the MS4 permit require either (a) retention of all non-storm runoff and the 85th percentile, 24 hour storm through practices that achieve flood control, water supply, or other benefits, or (b) by implementing a combination of other watershed control measures that will lead to attainment of effluent limits in runoff and receiving water limitations in surface waters, as demonstrated by a reasonable assurance analysis.

- **TMDLs –** Multiple TMDLs have been adopted for various surface water bodies in the City that are listed as impaired (i.e., do not meet established water quality objectives) on the current Clean Water Act Section 303(d) list. TMDLs which address the following constituents have been adopted and included in the MS4 Permit: Trash, Bacteria, Metals, Toxics, Nutrients, Sediment toxicity, benthic community effects. Each of the adopted TMDLs includes wasteload allocations which establish legal obligations for the City. The full cost of meeting all obligations has not yet begun to be realized.

- **Federal Clean Water Act (CWA) –** The CWA requires 10 broad categories of industrial storm water discharges to obtain an NPDES permit and meet water quality standards. On April 1, 2014, the SWRCB adopted the General Industrial Stormwater Permit (GISP) CAS000001. The GISP became effective on July 1, 2015 and mandates full compliance with all GISP requirements. The GISP is expected to impact multiple City of LA facilities, including these 6 LASAN facilities: HWRP, DCTWRP, LAGWRP, TIWRP, Lopez landfill, Central Los Angeles Refuse Transfer Station (CLARTS). Each facility (DCTWRP, LAGWRP, TIWRP, HWRP, CLARTS, Lopez) must have a Pollution Prevention Team (GISP X D), as well as identified alternates for mandatory GISP/Stormwater Pollution Prevention Plan (SWPPP) activities (GISP X D 1 c). As part of the SWPPP Team, each facility must designate a

qualified industrial stormwater practitioner (QISP) who must complete a State Water Board-sponsored or approved QISP training course (GISP I H). Instead of having a backup QISP for each facility, one back-up Environmental Engineering Associate II position is being requested to handle all QISP duties for all 6 facilities. The backup QISP will be responsible for completing all required GISP/SWPPP activities when regularly assigned team members are temporarily unavailable due to vacation, illness, leave, etc. The QISP is required for all Exceedance Response Actions (ERA), other compliance activities, and all technical reports if a Numeric Action Level is exceeded. A review of past laboratory records and exceedances reveals that more than one facility may exceed Numeric Action Levels (NALs) in the future (LAGWRT and CLARTS have exceeded in the past.)

The following policies are under development and could result in significant new costs to the City or constraints on the One Water program.

- **Groundwater Antidegradation Policy (SWRCB) –** could limit feasibility or increase costs for stormwater recharge projects depending on the policies and requirements that are adopted. For example, extensive stormwater treatment could be required to improve the quality of water being recharged or replenished to meet State antidegradation policy for groundwater.
- **Nutrient Policy for Inland Surface waters (SWRCB) –** Could result in increased costs associated with construction and operation of enhanced nutrient removal facilities for discharge to the Los Angeles River
- **Toxicity Policy for Inland Surface Waters (SWRCB) –** Could increase compliance costs and penalties for discharge to the Los Angeles River

3.3.2 Long-Term

The following regulatory policies are not currently under development but can be envisioned as a future regulatory constraint:

- **CECs (SWRCB/RWQCB) –** CECs (including pharmaceuticals, personal care products, and other currently unregulated chemicals) could be adopted as water quality objectives and effluent limits in NPDES permits. This could result in increased costs associated with treatment for discharge to the Los Angeles River, LA Harbor and/or Santa Monica Bay.
- **Current Use Pesticides (SWRCB/RWQCB) –** New water quality objectives for pyrethroids and other current use pesticides intended to replace pyrethroids could result in effluent limits which could lead to increased treatment costs for discharges to all of the City's watersheds.
- **Water Rights (SWRCB) –** Potential constraints on stormwater recharge/groundwater replenishment could result from water rights claims to existing stream flows.

Impacts on One Water Vision

Many of the stormwater management measures that are either required or encouraged by the MS4 permit to meet TMDLs, effluent limitations, and receiving water limitations, will be consistent with and enhance the projects envisioned for the City's One Water program. The primary issue is the magnitude of costs required to comply with the full measure of the MS4 permit and TMDLs and whether such actions will achieve the level of stormwater recharge and groundwater replenishment envisioned under the One Water program. To the degree that MS4 and TMDL compliance costs are very high, this may cause difficulties in the allocation of limited resources to fulfill the vision of the One Water program.

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APPENDIX A – REFERENCES

ARCADIS, 2017, East West Valley Interceptor Sewer (EWVIS) Concept Report prepared for the Los Angeles Bureau of Sanitation, January 2017.

LADWP, 2016, 2015 Urban Water Management Plan prepared for the California Department of Water Resource.

LADWP, 2014, Annual Recycled Water Report, Fiscal Year 2014-15, August 2015.

LADWP, 2015, Stormwater Capture Master Plan, August 2015.

LADWP/LASAN, 2006, City of Los Angeles Integrated Resources Plan, December 2006.

LADWP/LASAN, 2012, Recycled Water Master Plan, October 2012.

LASAN, 2015, Enhanced Watershed Management Programs, Prepared for the Following Watersheds: Ballona Creek, Dominguez Channel, Santa Monica Bay, Upper Los Angeles River, Marine Del Ray, June 2015.

LASAN, 2015, Evaluating Municipal Recycled Water Usage in Concrete Mixes, September 2015.

RWQCB, 2012, Los Angeles Regional Water Quality Control Board, Order No. R4-2012-0175 NPDES Permit No. CAS004001 Waste Discharge Requirements for Municipal Separate Storm Sewer System (MS4) Discharges within the Coastal Watersheds of Los Angeles County, except those Discharges Originating from the City of Long Beach MS4, November 8, 2012.

USACE, 2015, Los Angeles River Ecosystem Restoration Integrated Feasibility Report (aka, ARBOR Study – Alternative with Restoration Benefits and Opportunities for Revitalization), September 2015.

SWRCB, 2016, State Water Resources Control Board and California Environmental Protection Agency, Investigation on the Feasibility of Developing Uniform Water Recycling Criteria for direct potable reuse, December 2016.

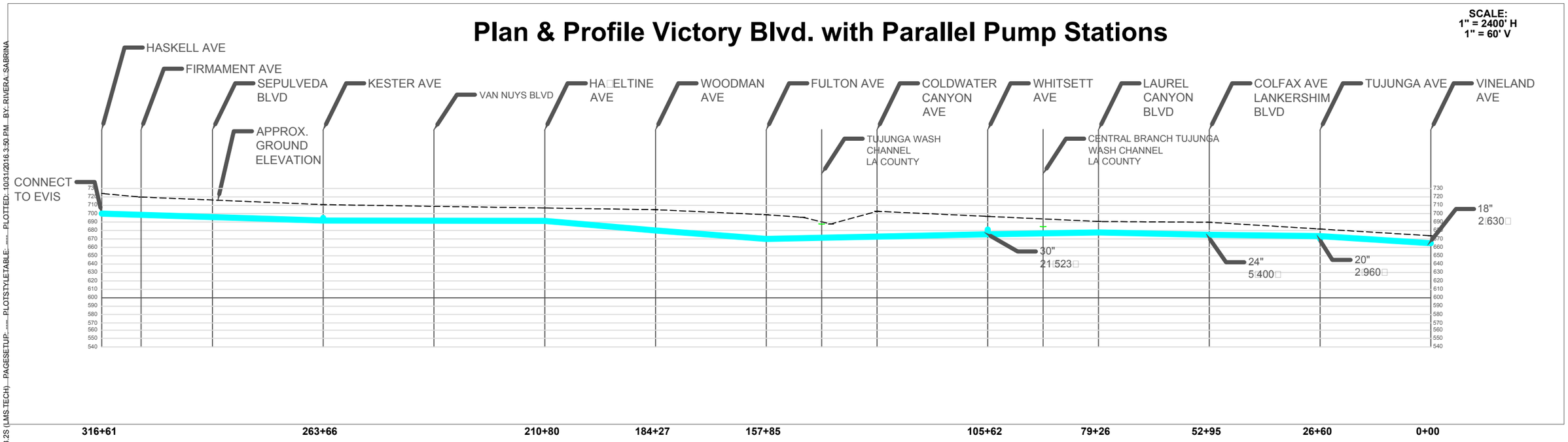
Other documents utilized for the preparation of this TM include:

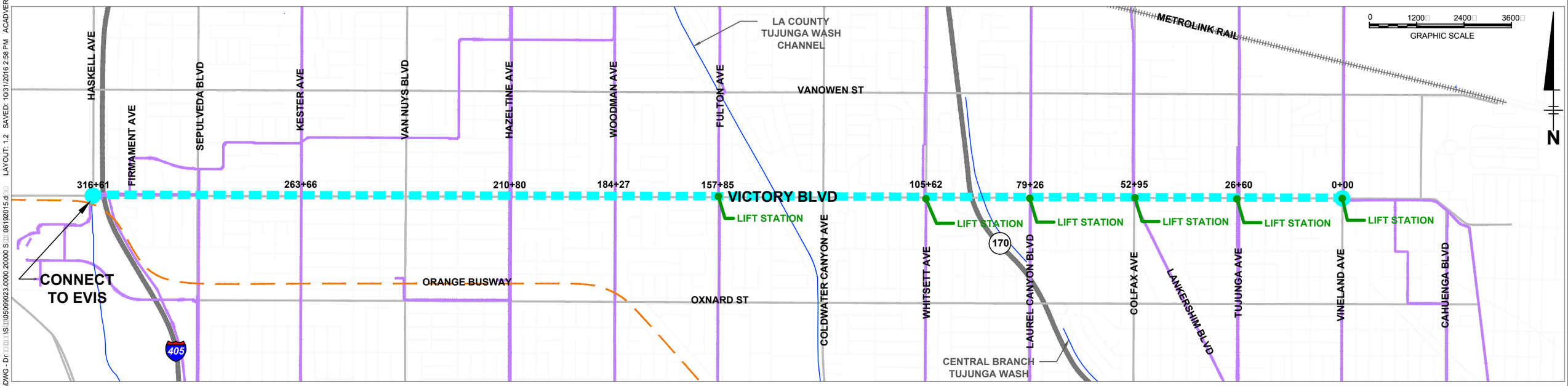
- Draft Green Alleys Master Plan
- LA Green Building Code - http://ladbs.org/LADBSWeb/green-bldg.jsf
- California Friendly Garden information - http://www.bewaterwise.com/Gardensoft/index.aspx
- LA's Transportation Element as Mobility Plan 2035
- LA County Model Design Manual for Living Streets
- Complete Streets Design Guide
- LA Greenway 2020 information can be found at http://www.larivercorp.com/greenway2020
- LA River Revitalization information can be found at http://www.lariver.org/index.htm
- Metro, Union Station Master Plan - https://www.metro.net/projects/la-union-station/
- Caltrans, 2013. Main Street California is an informational guide published in 2013 - Caltrans
- www.livingstreetsla.org
- GRASS Summary Report - 2013
- Transforming Alleys into Green Infrastructure - USC 2008

APPENDIX B – EAST-WEST VALLEY SEWER INTERCEPTOR PLAN & PROFILE

Plan & Profile Victory Blvd. with Parallel Pump Stations

SCALE:
1" = 2400' H
1" = 60' V





LEGEND:

- ALIGNMENT
- INTERCEPTOR
- OPEN CHANNEL
- ORANGE LINE

LA SANITATION
EWVIS CONCEPT REPORT

PLAN & PROFILE
Victory Blvd. Alignment with Pump Station in Parallel

ARCADIS

FIGURE
1.2

First Draft:	5/11/2017
Final Draft:	8/22/2017
Final:	3/21/2018
Lead Authors:	Rebecca Drayse Flor Burrola

CITY OF LOS ANGELES

TECHNICAL MEMORANDUM NO. 13.1
POLICIES AND PROGRAMS

FINAL
March 2018

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CITY OF LOS ANGELES

TECHNICAL MEMORANDUM
NO. 13.1
POLICIES AND PROGRAMS

TABLE OF CONTENTS

Page No.

LIST OF APPENDICES

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATIONS

Abbreviation	Description
BMPs	Best Management Practices
BOE	Los Angeles Bureau of Engineering
BSS	building and safety
City	City of Los Angeles
DCP	Department of City Planning
EED	Environmental Engineering Division
EWMP	Enhanced Watershed Management Program
GRASS	Greenways to Rivers Arterial Stormwater System
GSD	General Services Department
HSR	high-speed rail
ID	identification number
IRP	Integrated Resources Plan
JDA	Joint Development Agreements
LADBS	Los Angeles Department of Building Safety
LADOT	Los Angeles Department of Transportation
LADWP	Los Angeles Department of Water and Power
LACFCD	Los Angeles County Flood Control District
LARCC	Los Angeles River Cooperation Committee
LASAN	Los Angeles Sanitation
LAUSD	Los Angeles Unified School District
LAWA	Los Angeles World Airports
LAX	Los Angeles International Airport
LA Zoo	Los Angeles Zoo
LEED	Leadership in Energy and Environmental Design
LID	low impact development
METRO	Metropolitan Transportation Authority
MS4	Municipal Separate Storm Sewer System
POLA	Port of Los Angeles
RAP	Los Angeles Department of Recreation and Parks
SCAG	Southern California Association of Governments
SCMP	Stormwater Capture Master Plan
STG	Special Topics Group
TM	Technical Memorandum
USDA	United States Department of Agriculture
WPD	Watershed Protection Division

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1.0 INTRODUCTION

1.1 Summary of One Water LA

The City of Los Angeles (City) recently embarked on the One Water LA 2040 Plan. This plan will provide a strategic vision and a collaborative approach for integrated water management. In 2006, the City completed and adopted its first Water Integrated Resources Plan (IRP). This plan was the start of a paradigm shift for the City and resulted in significant achievements. Since then, the water landscape in the City has changed with increased demands, new regulations, and threats of climate change.

In response to these changes and to help achieve water sustainability, the City initiated the One Water LA 2040 Plan. This plan builds upon the success of the Water IRP, which had a planning horizon to year 2020. The One Water LA 2040 Plan takes a holistic and collaborative approach, to consider all water resources from surface water, groundwater, potable water, wastewater, recycled water, dry-weather runoff, and stormwater as "One Water." The plan identifies multi-departmental and multi-agency integration opportunities to manage water in a more efficient, cost effective, and sustainable manner.

The One Water LA 2040 Plan represents the City's continued and improved commitment to proactively manage all its water resources and implement innovative solutions, driven by the Sustainable City pLAn. The Plan will help guide strategic decisions for integrated water projects, programs, and policies within the City.

1.2 Purpose of Task 13

The purpose of Task 13 is to develop a set of recommended One Water LA Policies and Programs that help achieve the goals and objectives of One Water LA and support the Sustainable City pLAn.

The policies that are presented in this Technical Memorandum (TM) have been created to help the City reduce roadblocks, improve cost-effectiveness, and allow for more coordinated, collaborative, and timely implementation of water projects, programs, and management strategies identified in the One Water LA 2040 Plan. Through an extensive internal and external engagement process, the City identified 39 policies to help steer the City toward a more sustainable and integrated water future.

1.3 Purpose of TM 13.1

The primary purpose of this TM is to describe the One Water LA Phase 2 policy and program development process and the resulting 39 policies and programs that have been

recommended for further evaluation. During the multiple meetings with City staff, the Steering Committee, and stakeholders, additional Research suggestions and Actions for individual City Departments were identified and are documented in this TM.

A status report on the One Water LA Phase 1 Steering Committee "Quick-fixes" and a final status report on the IRP Go Policies are also described and included in this TM.

1.4 Background and Organization

The One Water LA 2040 plan policy development approach built upon the experience gained, and lessons learned during the IRP planning effort and One Water LA Phase 1. The City's IRP presented 25 Go policies and the final status of each is provided in Appendix B.

During One Water LA Phase 1, the Steering Committee, comprised of City Departments and Regional Agencies, brainstormed strategies to facilitate better communication between departments and agencies and advance One Water LA objectives more effectively. The resulting "quick-fixes" also support One Water LA's vision of: smarter land use practices, healthier watersheds, greater reliability of the City's water and wastewater systems, increased efficiency and operation of utilities, enhanced livable communities, climate change resilience, protection of public health, and the environment. A status report on the One Water LA Phase 1 "Quick-fixes" is provided in Section 4.0.

One Water LA Phase 2 expanded the policy and program development process to include ideas and suggestions from both the Steering Committee and Stakeholders representing a wide variety of interests and perspective including non-profits, the business community, commercial and industrial interests, and neighborhood council representatives. In total over 200 policy ideas were collected throughout the One Water LA engagement process. The policy and program ideas covered a variety of topics including:

1. Integrated Planning and Design
2. Stormwater and Urban Runoff Management
3. Training and Education
4. Streamlining Collaboration and Implementation
5. Funding and Partnerships
6. Sustainability and Climate Change
7. Water Conservation
8. Recycled Water
9. LA River Revitalization

The extensive list of ideas was analyzed and is summarized in the policies, programs, research, and action items contained in Section 2.0 of this document.

2.0 ONE WATER LA PHASE 2 POLICY APPROACH

A series of One Water LA department and agency Focus Meetings, Steering Committee meetings, Stakeholder Workshops, and Stakeholder Special Topic Group Meetings were conducted to solicit ideas for water policies and programs. Existing policy documents and other plans that contained relevant recommended City water policies were also reviewed. As a result, the One Water LA team compiled an initial list of approximately 87 water policy and program ideas. A special Project Ideas Workshop and a policy focused Stakeholder Workshop resulted in additional policies, programs, research ideas, and action items being collected. In total over 200 policy ideas were collected. Photos from one of the Stakeholder workshops are provided on Figure 1. Figure 2 illustrates an overview of the policy development process that took place to determine the final policy recommendations. The following sections describe the steps taken to draft policy concept language, consolidate similar ideas, and the rationale for categorizing ideas as a policy, program, research idea, or action item in more detail.

Figure 1 One Water LA Stakeholder Policy Workshop Photos

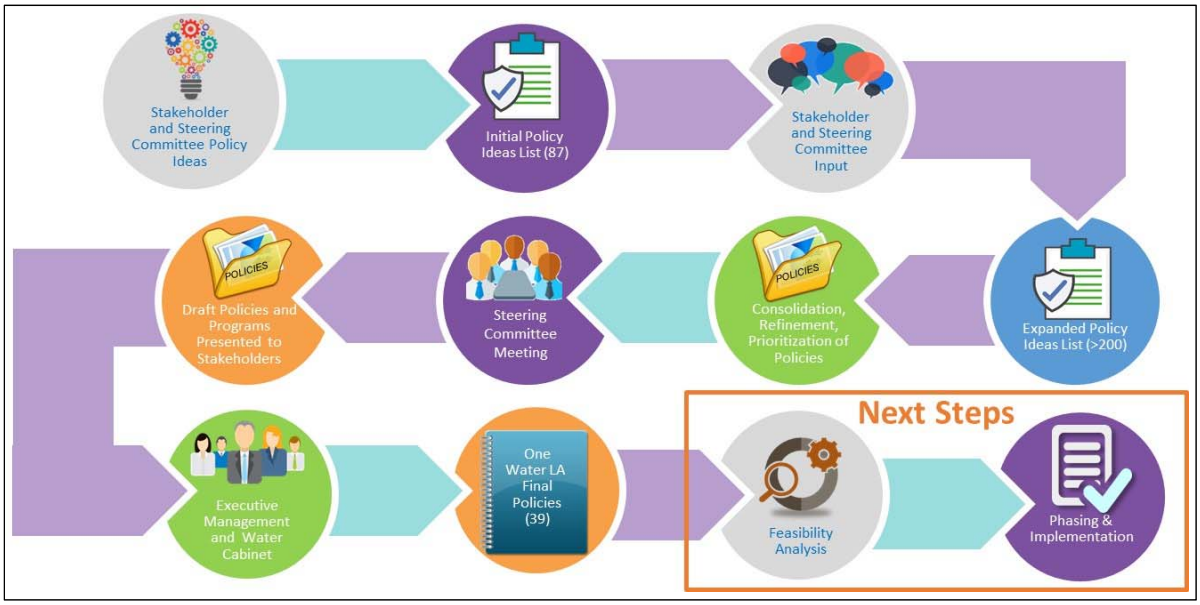

Figure 2 One Water LA Policy Development Process Overview

2.1 Policy Development and Refinement

Initial Steering Committee meetings and other focus meetings provided an opportunity for policy and program recommendations from various City Departments and Regional Agencies to better align the policy and program ideas with each department's vision, mission, and objectives. Similarly, throughout One Water LA's stakeholder engagement process, which included workshops, special topic group meetings, and a project ideas meeting, stakeholders provided their recommendations for policy and programs ideas.

A comprehensive review of notes from the initial Steering and Stakeholder meetings led to a draft policy ideas list. Sources for the initial policy ideas list included the following:

- City Department and Regional Agency Focus Meetings
- Stakeholder Workshops
- Stakeholder Special Topic Group Meetings
- Advisory Group Meetings
- Steering Committee Meetings

Additionally, existing Policy Documents were reviewed, including:

- LA Basin Stormwater Conservation Study
- Living Streets
- GRASS (Greenways to Rivers Arterial Stormwater System)
- Mobility Plan 2035
- Stormwater Capture Master Plan
- White Paper - Use of Financial Incentives for Stormwater Fees in Los Angeles County (Coalition of our Water Future)

The compiled list was presented to both the stakeholders and Steering Committee members for input and to solicit any additional ideas. The One Water LA team held a Stakeholder Policy Ideas Workshop where stakeholders reviewed the draft list, received clarification on its content, and provided additional ideas. Over 70 new ideas were generated during this workshop. The expanded list consisted of more than 200 policy ideas with a wide range of topics and varying levels of complexity.

The list was carefully and thoroughly reviewed, ideas were edited for clarity, and redundant ideas were consolidated. Individual ideas that fit into a larger theme were included as considerations to support more general umbrella policy or program concepts.

During the refinement process the ideas were grouped into the following 6 categories:

1. **Policies and Programs –** Concepts and ideas that meet and align with multiple One Water LA Objectives and Guiding Principles and help achieve the Sustainable City pLAn goals.
    a. Policies - One or more activity or effort that can be grouped under a common umbrella idea or theme and developed into a policy. Policies may need approval or adoption by policymakers before implementation can proceed.
    b. Programs – Ideas that consist of several activities and/or efforts that could be developed into an individual or multi-agency program. Programs may need approval or adoption by policymakers before implementation can proceed.
2. **Research Ideas –** Suggestions that are best suited as research projects or ideas that require further research before they could be developed into a policy or program.
3. **Action Items –** Ideas that are not a policy but a simple action the City can pursue.
4. **In-Progress or Accomplished –** Ideas suggested that the City is already pursuing or has accomplished.
5. **Additional Recommendations –** Ideas that were not selected during the prioritization process for further development or advancement in the One Water LA Plan at this time. A response to each of the ideas is included.
6. **Beyond Scope –** Ideas that are beyond the scope of the One Water LA planning effort but are documented for potential inclusion in other planning efforts.

The final policy and programs list recommended for further evaluation totaled 39 policies and programs. The other ideas captured in categories 2 through 6 are presented in Section 5.0 of this TM. Figure 3 illustrates how the stakeholders were engaged in the policy development process. Figure 4 illustrates the City's policy development process.

A Steering Committee meeting was held in spring 2017 to review and discuss the policies with a special focus on the 21 policies that are integration-focused and involve multiple departments and agencies. The following guiding questions were provided as the Steering Committee and the One Water team discussed each policy or program recommendation:

- Are there any major policy or program ideas that would assist with integration or collaboration opportunities missing?
- Are there any considerations missing from any of the policies?
- Are there other departments that should be listed in lead or support roles?
- Are there any challenging elements that should be discussed?
- Is any of the language or intent unclear?

The results of the meeting provided the One Water team with additional direction and input. Individual departments and agencies listed as policy leads or support were contacted to solicit their feedback on language for the remaining policies and programs and their feedback has been included in the final policy list.

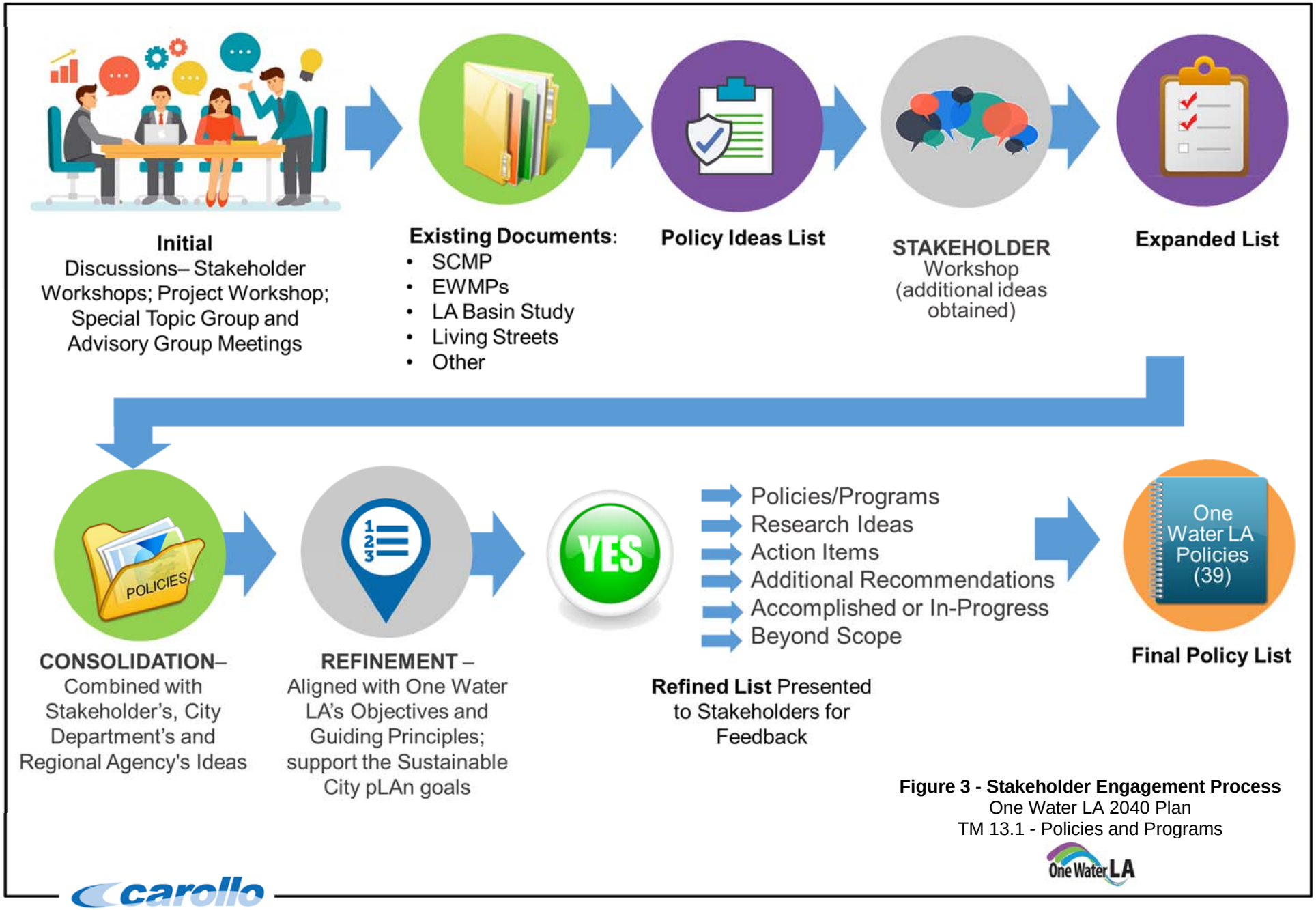

Figure 3 - Stakeholder Engagement Process
One Water LA 2040 Plan
TM 13.1 - Policies and Programs

Figure 4 - City's Policy Development Process
One Water LA 2040 Plan
TM 13.1 - Policies and Programs

2.2 Policy Classification Process

The One Water LA objectives and guiding principles, as well as the policy idea sources, were analyzed to support the policy classification process.

The purpose of associating each policy idea with the objectives and guiding principles was to:

1. Ensure we are developing polices aligned with the Objectives and Guiding Principles of One Water LA.
2. Provide guidance on prioritizing policies that meet multiple objectives and were recommended by multiple sources.
3. Provide a reference to connect implementation of specific policies to achieving associated One Water LA Objectives and Guiding Principles.

A policy exercise was conducted with members of the One Water LA Team and the Mayor's Office. This exercise had two parameters: priority and implementation. The priority was guided by the number of objectives and guiding principles the policy or program could achieve and the variety of sources that recommended the need for the policy or program. The One Water LA Objectives and Guiding Principles each policy meets is presented in Appendix C. The implementation category used an easier or more difficult to implement framework as a guide.

Figure 5 illustrates the matrix tool used to prioritize the policy and program ideas.

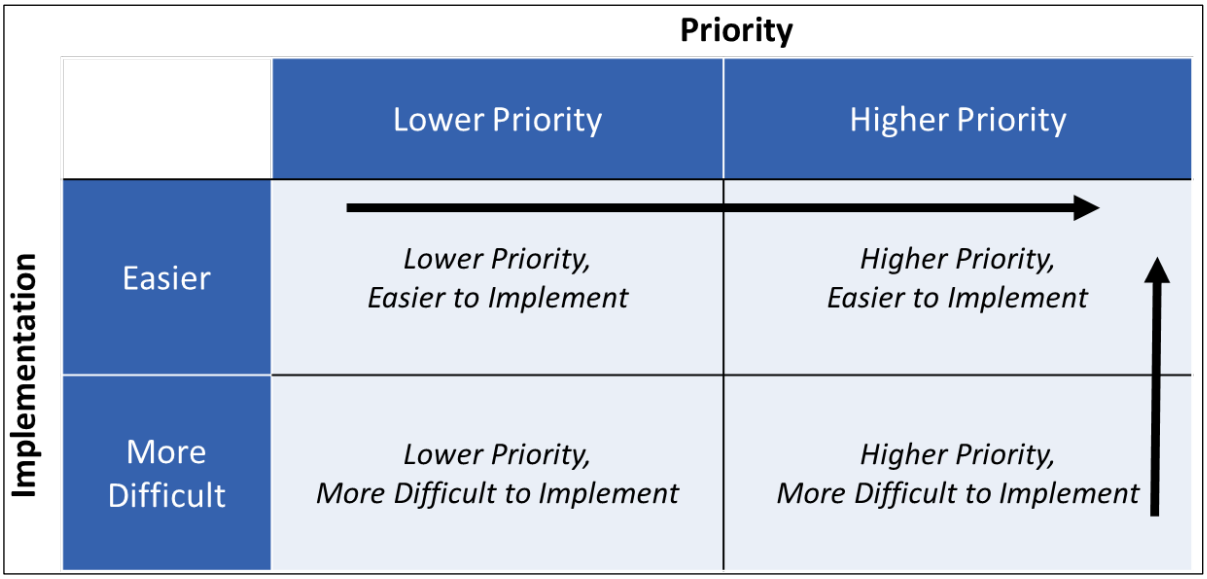

Figure 5 Policy Prioritization Tool

The results of the policy exercise completed by the One Water LA team are shown on Figure 6.

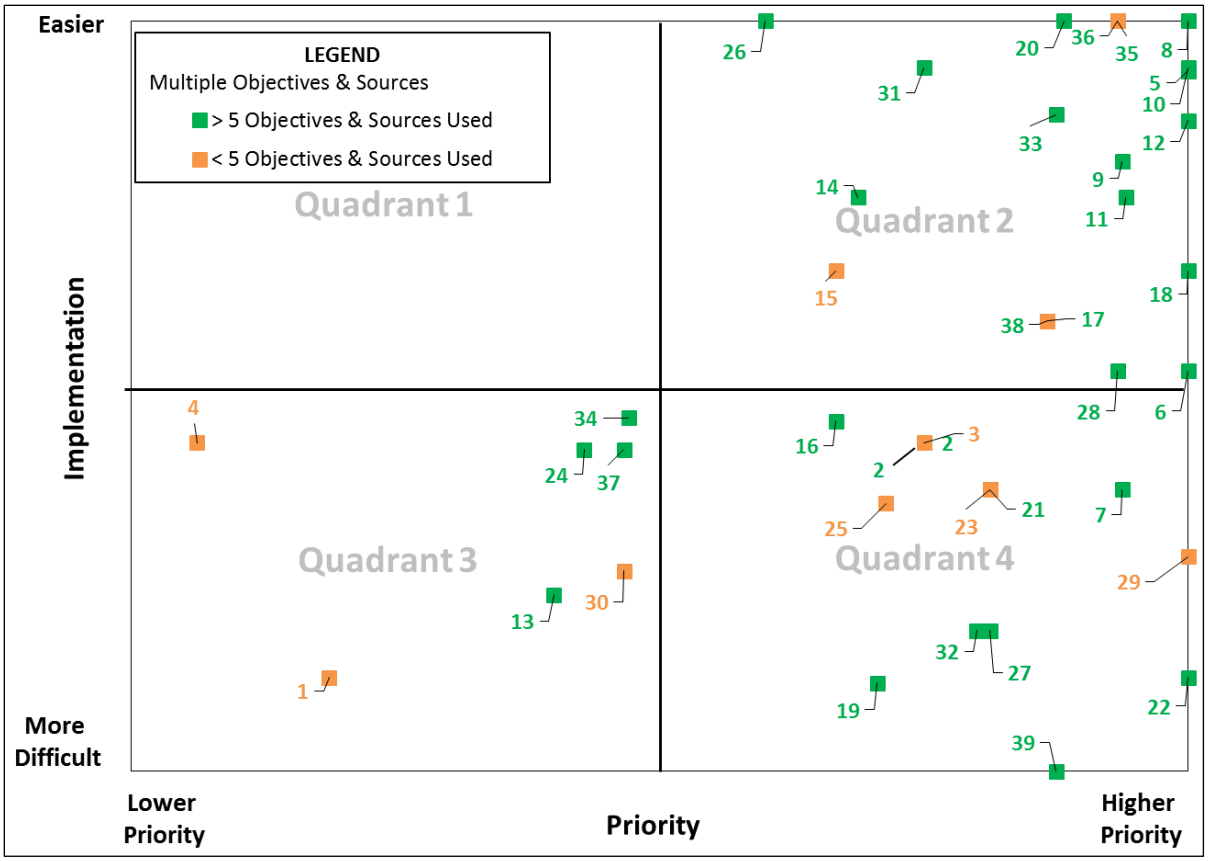

Figure 6 Policy & Program Classification Results

Figure 6 presents the number of policies and programs in each quadrant and illustrates that the majority are deemed higher priorities. The aim is to focus on policies and programs in quadrant 2 first as "quick wins." No policies or programs categorized in quadrant 1. Policies and programs in quadrant 3 are the lowest priority and more difficult to implement and as such would be revisited last.

3.0 PRIORITIZED POLICIES AND PROGRAMS

The consolidated list of 39 prioritized policies and programs identified as part of the One Water LA 2040 Plan are presented in this section. Prioritized policies are those that are considered higher priority, easier to implement, were recommended by multiple sources, and could have the greatest impact in achieving One Water LA Objectives and supporting the Sustainable City pLAn Goals. Table 1 presents the policies and programs by prioritized quadrant. The Table includes the following information: policy identification number (ID), policy category, potential policy lead and support, policy concept language, considerations for policy language development, and source(s). Icons (✔ for yes and ✖ for no) are then used to illustrate whether the policy was recommended to the Water Cabinet and if the policy meets multiple objectives and is from multiple sources.

Quadrant 2: Higher Priority, Easier to Implement

Policy Number	Policy Lead	Policy Concept Language		Recommend to Water Cabinet
8	All City Depts.	Maximize use of City owned property for stormwater capture retrofits.		✓
Category	Support	Considerations	Source(s)	Multiple Sources & Objectives
Promote Integrated Planning & Design	LADWP, LASAN	1) Prioritize groundwater recharge (where appropriate) and/or detain water for reuse in irrigation, while meeting or improving water quality standards. 2) Ensure that LID is required for City-owned properties. 3) Evaluate surplus property modifications to capture more Stormwater. 4) Include vacant lots and any publically owned alleys in evaluation. 5)Do not prioritize at expense of pursuing single family home retrofits. 6) Develop opportunity evaluation checklist as a tool for all City Departments. Use Stormwater Capture Master Plan project evaluation checklist as a model to build on. 7) Property owner is the lead (ex. RAP is a the lead agency for all park projects which are a key opportunity) or consulted to approve proposed concept. 8) Expand on the Green Sustainable Streets Council Motion (14-0748) to include ET under capture and reuse. Allow other priority items, in order, per ordinance. 9) Utilize database of city-owned properties including vacant lots developed by Mayor's Operations Innovation Team.	LASAN, Steering Committee, Stakeholder Workshop	✓

Policy Number	Policy Lead	Policy Concept Language		Recommend to Water Cabinet
10	LASAN	Maximize water supply opportunities in water quality compliance and improvement projects and programs.		✗
Category	Support	Considerations	Source(s)	Multiple Sources & Objectives
Promote Integrated Planning & Design	All City Depts.	Identify a process to quantify water supply benefit early in the design process.	LASAN, LA Basin Study	✓

Policy Number	Policy Lead	Policy Concept Language		Recommend to Water Cabinet
18	DCP	Streamline the process and coordinate the timing of approvals for builders implementing LID and Green Building requirements		✗
Category	Support	Considerations	Source(s)	Multiple Sources & Objectives
Improve Collaboration & Streamline Implementation	LASAN, DCP, LADBS	1) Work with Re:Code LA and Build LA teams to revise process to make sure LID design requirements are indicated at beginning of project. 2) Ensure all requirements are clear. 3) Include more training for counter staff.	Workshop, Small business community, developers	✓

Policy Number	Policy Lead	Policy Concept Language		Recommend to Water Cabinet
11	LASAN, LADWP, BOE	Create a city-wide database to identify collaborative opportunities for water-related multi-benefit projects.		✓
Category	Support	Considerations	Source(s)	Multiple Sources & Objectives
Promote Integrated Planning & Design	All City Depts., LA County, Other Regional Entities	Database to be shared between agencies and will be designed to facilitate cooperation and collaboration, leverage resources and minimize neighborhood disruption. 1) Include agencies and utilities with projects in the public ROW. 2) Determine best approach to include projects or opportunities with regional entities including LAUSD and LADPW. 3) Determine where to house and who maintains. 4) Consider GeoHub, Navigate LA (reservation system), or LADOT's project dashboard as potential platforms. Example uses: a) Tool to collaborate with Caltrans for Urban Runoff Green Streets. b) Leverage major infrastructure investments for LA River revitalization. c) Leverage Great Streets efforts to incorporate more watershed management features. 5) Evaluate how to incorporate GRASS evaluation process into City prioritization of stormwater greenway projects. 6) Use as a tool to evaluate impact of upstream BMP installation on the need for larger downstream projects over time.	Funding STG, Steering, SCMP, GRASS, LASAN	✓

Table 1 - Prioritized Policies and Programs

Policy Number	Policy Lead	Policy Concept Language		Recommend to Water Cabinet
20	LASAN	Create a vehicle for continued department and regional agency collaboration beyond One Water LA 2040 Plan Development.		✓
Category	Support	Considerations	Source(s)	Multiple Sources & Objectives
Improve Collaboration & Streamline Implementation	Water Cabinet, All City Depts.,	Continue and build upon structure and function of One Water LA Steering Committee. This vehicle/committee will allow for adaptive management through continued evaluation of necessary policy changes, further discussion of long-term alternatives and identification of additional integration opportunities. Consider staff resourcing implications.	Steering Committee, Living Streets	✓

Policy Number	Policy Lead	Policy Concept Language		Recommend to Water Cabinet
33	LASAN, BSS	Require Green Street implementation to use sustainable elements and native or climate-appropriate flora compatible with local biomes.		✗
Category	Support	Considerations	Source(s)	Multiple Sources & Objectives
Sustainability & Climate Change Resiliency	All City Depts.	1) Maximize benefits beyond stormwater management. 2) Assure projects follow standards using watershed approach (developed by LADWP) for landscaping. 3) Consider for all street programs, not just green streets. 4) Include BMPs that promote a wide range of benefits including: a) cooling and urban heat island b) trees that provide edible fruit (i.e.. Carob as allowed in City Standards). 5) Select flora that can survive extreme heat and prolonged drought. 6) Investigate Tucson, AZ program for resources. 7) Coordinate with Rec & Parks regarding pests that are invading Southern California. 8) Prioritize sustainable materials where possible.	LASAN, Stakeholder Workshop, Project Workshop.	✓

Policy Number	Policy Lead	Policy Concept Language		Recommend to Water Cabinet
17	BOE, LASAN, LADWP, LADBS, LADOT	Create a process to expedite approval of public projects that help meet the Sustainable City pLAn, Watershed Management Programs, and One Water LA's objectives.		✓
Category	Support	Considerations	Source(s)	Multiple Sources & Objectives
Improve Collaboration & Streamline Implementation	Water Cabinet	1) Develop steps to accomplish and identify all regulating agencies. 2) Collaborate with all agencies that have permitting authority to streamline permitting of stormwater capture projects. 3) Ensure that expedited process is subject to environmental laws. 4) Establish approval criteria and guidelines. 5) Work with BuildLA group	Steering Committee (LADOT, RAP), Stormwater STG, SCMP, Partnerships STG	✓

Policy Number	Policy Lead	Policy Concept Language		Recommend to Water Cabinet
38	LASAN	Develop guidelines for Onsite Treatment Facilities (OSTFs) that protect public health and outline wastewater and recycled water systems' operation.		✗
Category	Support	Considerations	Source(s)	Multiple Sources & Objectives
Recycled Water & On-Site Wastewater Treatment Facilities (private OSTF)	LADWP	Guideline development considerations: a) Using a geographic/sewershed approach for project evaluation that links project siting to system impacts and/or potable water use reduction. b) Exclusion of On-site Water Treatment Systems where purple pipe and a sufficient supply of recycled water is available. c) Prohibition of wastewater being taken or mined from LASAN sewers. d) Permit requirements including Industrial Wastewater Permits. e) Maintenance protocol to ensure proper design, operations, and maintenance that includes submission of Maintenance Plan with application and failure plan that assures safe disposal of all flows. f) Owner/operator liability (and possibly indemnify City) for injury, harm, penalties, fines, etc.. g) Neighbor notification of potential uses of OSTF's water onsite. h) Installation and maintenance of educational signage for projects using OSTF's water. i) Any necessary building code updates. j) Agreement with State AB 1463 Legislation guidelines. k) Guidelines should encourage innovation without diminishing revenues	Decentralized STG, LASAN, Project Workshop	✗

Table 1 - Prioritized Policies and Programs

Policy Number	Policy Lead	Policy Concept Language		Recommend to Water Cabinet
14	BSS	Update the Street Tree Selection Guide to better address climate change and water concerns.		✗
Category	Support	Considerations	Source(s)	Multiple Sources & Objectives
Promote Integrated Planning & Design	LASAN, DCP	1) Carefully select trees that are drought tolerant, heat and pest resistant, and can capture stormwater in parkways. 2) Use as Reference Guide in Re:Code LA, Mitigation Measures and Community Plan updates. 3) Use list for sidewalk settlement tree replacements. 4) Expand the Urban Forestry list to include canopy trees (BSS) 5) Coordinate with certified arborists and licensed landscape architects.	LASAN, STG-Stormwater	✓

Policy Number	Policy Lead	Policy Concept Language		Recommend to Water Cabinet
15	LASAN, LADWP	Identify a sufficient water supply for establishing and maintaining green infrastructure.		✗
Category	Support	Considerations	Source(s)	Multiple Sources & Objectives
Improve Collaboration & Streamline Implementation	Water Cabinet	Establish a process to provide short and long-term water needs for each project.	Steering Committee (LASAN-WPD)	✗

Policy Number	Policy Lead	Policy Concept Language		Recommend to Water Cabinet
5	LASAN	Develop robust stormwater pollution source control education measures that increase awareness and public participation.		✗
Category	Support	Considerations	Source(s)	Multiple Sources & Objectives
Stormwater and Urban Runoff - Preventive Stormwater Quality Improvement Measures	Public Works	1) Include multi-lingual public education program. 2) Address high pollutant activities like cleaning of painting and stucco equipment. 3) Increase safe centers and make them a one-stop site that includes compost, etc. 4) Include education for preventing runoff from industrial users. 5) Develop an education program on best types of lawn fertilizers to prevent nutrient pollution entering City storm drains. a) Include best practices for fertilizer application methods and timing. b) Promote organic lawn care education. c) Recognize and promote environmentally friendly products.	Project Workshop, Workshop #5	✓

Policy Number	Policy Lead	Policy Concept Language		Recommend to Water Cabinet
12	LASAN	Maximize opportunities to incorporate integrated water management strategies, including green infrastructure, into on-going and emerging opportunities.		✓
Category	Support	Considerations	Source(s)	Multiple Sources & Objectives
Promote Integrated Planning & Design	All City Depts.,LACFCD, Other Regional Entities	Efforts include City of LA sidewalk repair program, Measure A grant guidelines, Measure M, Safe Routes to School, Metro's 1st and Last Mile, Active Transportation Projects and AHSC (Affordable Housing & Sustainable Communities) Program.	Project Workshop, Advisory Group, Stormwater Workshop, Steering Committee	✓

Table 1 - Prioritized Policies and Programs

Policy Number	Policy Lead	Policy Concept Language		Recommend to Water Cabinet
6	BOE	Simplify the process and remove barriers to installing parkway swales and other distributed green infrastructure BMPs in the public right-of-way.		✓
Category	Support	Considerations	Source(s)	Multiple Sources & Objectives
Promote Integrated Planning & Design	LASAN, LAFD, BSS, DCP, LADOT	1) Create simplified standard plans for multiple BMPs including curb cuts, infiltration BMPs and permeable pavement (work with LAFD for permeable pavement). 2) Incorporate curb-cuts (or other water collection methods) and tree water wells to public right-of way tree planting projects where feasible. 3) Consider BMPs for sloped areas and areas where infiltration is not an option. 4)Create standards for appurtenances such as medians and roundabouts, curb extensions, and retro-fitting features such as tree well trenches. 5) Address design challenge when intersection is next to an existing storm drain. 6) Consider cost/affordability of permit(s). 7) Incorporate and share lessons-learned from project design and implementation in future designs. 8) Assure all city departments are aware of new and/or updated standards. 9) Include alleys in evaluation. 10) Coordinate with sidewalk repair program and Vision Zero goals.	Stormwater STG, Project Workshop, LASAN, Steering	✓

Policy Number	Policy Lead	Policy Concept Language		Recommend to Water Cabinet
9	LASAN	Develop templates for standardized maintenance agreements and provide training to ensure maintenance of collaborative stormwater projects in the City.		✗
Category	Support	Considerations	Source(s)	Multiple Sources & Objectives
Promote Integrated Planning & Design	All City Depts., Regional Agencies	Develop standardized agreements that can be shared across departments and organizations. Develop a training program that considers : 1) A certification program for BMP maintenance that can include the private sector. 2) Allowing the City to maintain improvements and BMPs constructed by smaller organizations. 3) An operations and maintenance cross-training program for dept./agencies/organizations on maintaining BMPs (former policy 74). 4) Consider modeling after Portland's Green Streets Stewards. Training should emphasize a watershed approach and should be consistent with the standards.	Steering Committee, LA Basin Study, Project Workshop	✓

Policy Number	Policy Lead	Policy Concept Language		Recommend to Water Cabinet
35	LASAN, LADWP	Expand education and engagement programs on potable reuse.		✗
Category	Support	Considerations	Source(s)	Multiple Sources & Objectives
Training and Education (revised heading)	None identified	1) Build on work completed by RWAG 2) Develop wider public education program that includes: a) Leverage resources by partnering with community colleges, and universities. b) develop materials appropriate for all grade levels. 3) Include training for City Supervisors and Counter Staff. 4) Identify resources to implement program. 5) Work with La Kretz Center on education programs.	Stakeholder Workshop (world café), Project Workshop, Workshop #5.	✓

Table 1 - Prioritized Policies and Programs

Policy Number	Policy Lead	Policy Concept Language		Recommend to Water Cabinet
36	LASAN	Expand "how to" training and education programs to increase understanding of green infrastructure systems, increase implementation participation, and improve performance.		✗
Category	Support	Considerations	Source(s)	Multiple Sources & Objectives
Training and Education (revised heading)	All City Depts.	1) Increase practical training and education programs on: a) Best methods for onsite stormwater capture. b) Value of living soil for engineered soils. c) Selection and maintenance of Native Plants d) Provide technical assistance to match needs/issues for different land uses and bmps. e) Include methods Santa Monica Landscape Coaching Program. 2) Partner with academia to develop and deliver training and education programs 3) Determine priorities and time-frame for delivering programs. 4) Educate and train City Departments on MS4 and TMDL regulatory requirements. 5) Evaluate target audiences including landscape design, and landscape maintenance sectors for both workforce development and re-training of existing workforce.	Workshop #5.	✗

Policy Number	Policy Lead	Policy Concept Language		Recommend to Water Cabinet
28	LASAN, LADWP	Create a program to facilitate partnerships between City departments, regional agencies, and Non-Profit Organizations for water-related projects and programs.		✗
Category	Support	Considerations	Source(s)	Multiple Sources & Objectives
Funding & Partnerships	All City Depts.	1) Involve neighborhood councils to connect partnerships to local needs. 2) Develop standard MOUs to streamline participation in projects. 3) Leverage NGOs with BMP expertize.	Funding STG (Top), Stormwater STG, SCMP, Workshop #5	✓

Policy Number	Policy Lead	Policy Concept Language		Recommend to Water Cabinet
31	LASAN, LADWP	Expand partnerships between the City and academia to advance water-related research and innovation.		✗
Category	Support	Considerations	Source(s)	Multiple Sources & Objectives
Funding & Partnerships	Academia	Increasing partnerships will leverage university and community college assets and resources while providing opportunities for academic growth and achievement. Increase partnerships and engagement with Universities, CSUs, and community colleges to: a) Advance research on water conservation, recycling and stormwater capture. b) Develop policies c) Provide third-party evaluation of policies and programs. d) Evaluate BMPs, impacts of different soils, and guide selection process.	Project Ideas, Workshop #5	✓

Policy Number	Policy Lead	Policy Concept Language		Recommend to Water Cabinet
26	LASAN	Develop property owner recognition programs to promote and acknowledge stormwater capture retrofits and other sustainable practices.		✗
Category	Support	Considerations	Source(s)	Multiple Sources & Objectives
Stormwater and Urban Runoff - Incentive Programs	LADWP	1) Develop property owner recognition programs including yard signage. 2) Create a business acknowledgement program for sustainable practices and explore how to incorporate into Green Business Certification Program. 3) Encourage "Riverly" development by highlighting public and private sector best practices for watershed management (SC).	Stormwater STG (Top), Steering Committee (LA River Works)	✓

Quadrant 4: Higher Priority, More Difficult to Implement

Policy Number	Policy Lead	Policy Concept Language		Recommend to Water Cabinet
29	LASAN	Develop tools and best methods to facilitate agency cost-sharing for multi-benefit projects and programs.		✓
Category	Support	Considerations	Source(s)	Multiple Sources & Objectives
Funding & Partnerships	All City Depts.	1) Create budgeting tool to identify multi-benefit projects and cost-sharing across multiple city departments, and regional agencies. 2)Leverage resources for multi-benefits 3) Develop a protocol to identify cost allocations using a benefit based cost-benefit analysis. 4) Explore how to best involve state and federal agencies in cost-sharing.	Living Streets, Partnerships STG, Steering Committee World Café, Funding STG (Top), Advisory Group SCMP. Workshop #5	✗

Policy Number	Policy Lead	Policy Concept Language		Recommend to Water Cabinet
39	LASAN	Develop a fee structure and payment guidelines for on-site treatment systems that reflect collection and treatment system impacts and costs.		✗
Category	Support	Considerations	Source(s)	Multiple Sources & Objectives
Recycled Water & On-Site Wastewater Treatment Facilities (private OSTF)	None identified	1) Determine surcharge or capacity related fee that Owners/Operators of OSTFs will pay to LASAN 2) Structure fee so that existing customers do not have to subsidize, directly or indirectly, the capital cost or operations of OSTFs. 3) Surcharge Fees structure could include a tiered rate for solids, total dissolved solids (TDS) limit in the Sewer Use Ordinance, which would apply to all users, or a TDS limit in each discharge permit for industrial users. 4) Include cost recovery for salt or TDS concentration impacts.	Decentralized STG, LASAN	✓

Policy Number	Policy Lead	Policy Concept Language		Recommend to Water Cabinet
21	LASAN	Develop a protocol for when and how private property owners will maintain the City's right-of-way stormwater improvements.		✗
Category	Support	Considerations	Source(s)	Multiple Sources & Objectives
Improve Collaboration & Streamline Implementation	BOE, BSS, LADWP	Include a mechanism to ensure/enforce maintenance.	Stormwater Facilities Workshop	✓

Policy Number	Policy Lead	Policy Concept Language		Recommend to Water Cabinet
32	Mayor's Office	Integrate climate adaptation, mitigation, and resilience principles into the planning, design, construction, and operations of water-related projects.		✓
Category	Support	Considerations	Source(s)	Multiple Sources & Objectives
Sustainability & Climate Change Resiliency	All City Depts.	1) Carefully consider selection of climate change models to consider climate scenarios. 2) Prioritize life-cycle performance of components, systems, and materials. 3) Reference work already taking place including Green Building Council and California Building codes. 4) Expand water-efficient practices at all City facilities. a) Expand to watershed/LID approach to capture more stormwater where possible. b) Work with City agencies including with LADOT and BOE on ROW's like the Los Angeles River Bike Path. c) Install or retrofit City properties with efficient irrigation and Smart Controllers. d) Include daily operational practices (ex. using recycled water for street sweeping trucks). e) Use drought-tolerant, heat resistant plants wherever feasible.	Steering Committee (HSR, LACFCD, LADOT,LADWP), Workshop #5	✓

Table 1 - Prioritized Policies and Programs

Policy Number	Policy Lead	Policy Concept Language		Recommend to Water Cabinet
19	BSS, BOE, DCP	Identify the process or entity that will coordinate and manage all street and alley improvement efforts in the City.		✓
Category	Support	Considerations	Source(s)	Multiple Sources & Objectives
Improve Collaboration & Streamline Implementation	DOT, LADWP, LASAN	Recommended to maximize integration opportunities and leverage existing resources. 1) Build upon LASAN's Public Right-of-Way LID group 2) Include all street programs including Green, Complete, People, Living, Cool, Clean, Great, etc. 3) Include Mobility Plan and Vision Zero goals. 4) Develop co-benefit approach and consider checklist that would include goals from each program. 5) Create a framework/process to identify prospective multi-jurisdictional projects. 6) Convene a committee to discuss process and next steps.	Living Streets; Stormwater STG, Project Workshop, Steering Committee	✓

Policy Number	Policy Lead	Policy Concept Language		Recommend to Water Cabinet
16	LASAN, LADWP	Create a vehicle that allows for shared operation and maintenance duties between multiple public agencies or public/private entities for stormwater BMPs.		✗
Category	Support	Considerations	Source(s)	Multiple Sources & Objectives
Improve Collaboration & Streamline Implementation	Water Cabinet, All City Depts.	1) Convene task force or committee to explore structures and make recommendations. 2)Consider JPAs as potential vehicle for maintenance and operations for public entities.	Stormwater STG (Top)	✓

Policy Number	Policy Lead	Policy Concept Language		Recommend to Water Cabinet
22	LASAN	Evaluate and implement the most effective methods to incentivize stormwater capture retrofits.		✗
Category	Support	Considerations	Source(s)	Multiple Sources & Objectives
Stormwater and Urban Runoff - Incentive Programs	LADWP	Ideas suggested to evaluate: 1) Stormwater fee credit or discount program. a) Incentives program should include opportunities for all property types including single family, multi-family, schools, commercial, industrial and municipal. b) Create credits for those who capture more current regulation requirements. c) Fee waivers or reductions for homes with zero runoff. d) Credits or fee waivers in exchange for long-term rights to construct capture and infiltration or capture and use projects under playgrounds and sports fields. e) Consider credits for past performance. 2) Develop engagement program to: a) Educate property owners about available incentives and retrofit methods. b) Consider method that encourages neighbors to self-organize to trigger enhanced group incentive. c) Include Neighborhood Councils in promotional efforts. 3) Include rebates for a variety of bmps including French drains and rain gardens. 4) Identify a funding source for Incentive Programs.	Steering Committee, Stakeholder Workshop (world café), Funding STG, Coalition for our Water Future, SCMP, Stormwater STG (Top), Project Workshop, Workshop #5	✓

Table 1 - Prioritized Policies and Programs

Policy Number	Policy Lead	Policy Concept Language		Recommend to Water Cabinet
7	LADBS	Simplify the process and remove barriers to installing distributed green infrastructure BMPs on private properties in the City.		✗
Category	Support	Considerations	Source(s)	Multiple Sources & Objectives
Promote Integrated Planning & Design	LASAN, BOE, DCP, Regional Agencies	Develop additional design guidance for on-site infiltration and direct use projects: 1) Ensure that policy addresses design needs of different types of properties. 2) Factor in soil absorption capacity in designs, not just infiltration rates (LADBS Grading Division). 3) Address building codes that are a hindrance including diversion distance requirements for downspout redirects. 4) Untangle/simplify regulations for rainwater harvesting. Involve LADBS Mechanical Division and LA County Dept. of Public Health. 5) Consider cost of implementation as a potential barrier.	Various (at least 2), LASAN, Workshop 5, Steering	✓

Policy Number	Policy Lead	Policy Concept Language		Recommend to Water Cabinet
23	LASAN	Develop incentive programs to encourage reducing paved areas and increasing permeable pavements.		✗
Category	Support	Considerations	Source(s)	Multiple Sources & Objectives
Stormwater and Urban Runoff - Incentive Programs	BOE, LADWP	1) Create a rebate program for private parking lot retrofits for previous pavement and stormwater recapture/infiltration improvements. 2) Include tree canopy in parking lot retrofits. 3) Include schools in the program. 4) Investigate pervious pavement programs implemented by Watsonville, CA and Philadelphia. 5) Explore pervious buy-back program or pervious rebate for reducing impermeable parking lots, driveways, etc. 6) Base rebate amount on benefit received. 7) Determine thresholds for implementing incentives including property size, building footprint, and square footage reduction requirements.	Stormwater STG (Cons. # 5 Top Recc)	✗

Policy Number	Policy Lead	Policy Concept Language		Recommend to Water Cabinet
27	LASAN, LADWP	Create a program to evaluate and facilitate public-private partnerships for water projects.		✓
Category	Support	Considerations	Source(s)	Multiple Sources & Objectives
Funding & Partnerships	All City Depts.	1) Evaluate most cost effective incentives to foster partnerships with investors and private companies for capital projects. 2) Develop a public process to determine: a) criteria to identify best opportunities for P3s b) rewards; bids/award process. c) Financing vehicles. 3) Include Unions, and Clean Tech Incubator to help cultivate startups.	Funding STG (Top), Partnerships STG, Advisory Group, SCMP, Workshop #5	✓

Table 1 - Prioritized Policies and Programs

Policy Number	Policy Lead	Policy Concept Language		Recommend to Water Cabinet
2	LASAN	Research best method and establish tracking system for graywater installations throughout the city. Consider potential impacts of graywater systems on water supply needs.		✗
Category	Support	Considerations	Source(s)	Multiple Sources & Objectives
Water Conservation & Graywater	LADWP, LADBS	Conduct research to gather more local data on graywater usage and impacts. 1) Develop tracking method for graywater system installations. 2) Determine best way to accommodate onsite facilities while protecting/balancing financial and flow impacts. 3) Consider potential conflicts between expanded graywater use and future IPR/DPR programs. 4)Ammonia and TDS are important to track.	Decentralized STG, Steering Committee	✓

Policy Number	Policy Lead	Policy Concept Language		Recommend to Water Cabinet
3	LADBS, LASAN, LADWP	Develop graywater user education information and signage for areas irrigated with graywater.		✗
Category	Support	Considerations	Source(s)	Multiple Sources & Objectives
Water Conservation & Graywater	County Health	1) Provide information on proper detergent use to address the accumulation of salts in soil from graywater, which has a negative effect soil biology and plants. 2) Provide education on proper use of graywater to maximize graywater system efficiency. 3) Review Arizona policy as possible model for education. 4) Use consistent signage for recycled water and graywater and consider recycled materials for signage. 5) Consider how graywater system information will be transferred with home ownership transfer.	Decentralized STG	✗

Policy Number	Policy Lead	Policy Concept Language		Recommend to Water Cabinet
25	LASAN	Evaluate the feasibility of a program that allows properties to generate Stormwater Retention Credits (SRCs) for voluntary implementation of green infrastructure that reduces stormwater runoff.		✗
Category	Support	Considerations	Source(s)	Multiple Sources & Objectives
Stormwater and Urban Runoff - Incentive Programs	LADWP	Evaluate Washington program similar to cap and trade	Stormwater STG (Top)	✗

Quadrant 1: Lower Priority, Easier to Implement

No policies listed in quadrant 1.

Quadrant 3: Lower Priority, More Difficult to Implement

Policy Number	Policy Lead	Policy Concept Language		Recommend to Water Cabinet
34	BOE	Explore the feasibility of requiring the Sustainable Infrastructure Certification program Envision for large projects and create a program for staff certification.		✗
Category	Support	Considerations	Source(s)	Multiple Sources & Objectives
Sustainability & Climate Change Resiliency	All City Depts.	1) Develop criteria for requiring certification. BOE recommends setting up a subgroup of interested parties include BOS, DOT and Metro. 2)BOE to consider prioritizing Envision points for Quality of Life, Leadership, Resource Allocation, Natural World and Climate and Risk during preliminary design & construction of City facilities. 3) Include as part of the design process.	Steering Committee (BOE)	✓

Policy Number	Policy Lead	Policy Concept Language		Recommend to Water Cabinet
30	LASAN	Explore the potential for establishing an Enhanced Infrastructure Financing District or other appropriate funding mechanism to fund capital projects and sustainable operations and maintenance.		✗
Category	Support	Considerations	Source(s)	Multiple Sources & Objectives
Funding & Partnerships	Mayor's Office (LA RiverWorks, City Services, and Economic Development)	Consider LA River Revitalization Projects as a priority opportunity.	Steering Committee (LA Riverworks)	✗

Policy Number	Policy Lead	Policy Concept Language		Recommend to Water Cabinet
24	LASAN	Create a "Percent for Green" fund that supports constructing Green Street facilities and dedicate a minimum percent for green infrastructure.		✗
Category	Support	Considerations	Source(s)	Multiple Sources & Objectives
Stormwater and Urban Runoff - Incentive Programs	All City Depts.	1) Develop a science-based framework for evaluating eligible projects. 2) Consider as a funding source for Community Grant Projects.	Stormwater STG (Top)	✓

Policy Number	Policy Lead	Policy Concept Language		Recommend to Water Cabinet
13	LASAN	Investigate the development of a stormwater capture retrofit ordinance that would require installing stormwater capture projects in homes upon resale.		✗
Category	Support	Considerations	Source(s)	Multiple Sources & Objectives
Promote Integrated Planning & Design	TBD	1) Consider major redevelopment, not just resale. 2) Explore how to transfer BMP requirement to subsequent owners. 3) Consider cost of implementation and any off-set by rebate programs.	SCMP	✓

Table 1 - Prioritized Policies and Programs

Policy Number	Policy Lead	Policy Concept Language		Recommend to Water Cabinet
1	LADBS	Update efficiency requirements in City's retrofit on resale program.		✗
Category	Support	Considerations	Source(s)	Multiple Sources & Objectives
Water Conservation & Graywater	LASAN, LADWP	1) Update efficiency requirements to match more stringent current standards set in the City's other plumbing fixture efficiency ordinances. 2) Consider additional water-using appliances (urinals, showers, laundry) 3) Commercial/Industrial properties and high water uses like hospitals and large cooling systems.	LASAN	✗

Policy Number	Policy Lead	Policy Concept Language		Recommend to Water Cabinet
4	LASAN	Develop best method to encourage drainage water from swimming pools to be discharged into the sewer system rather than a street or storm drain.		✗
Category	Support	Considerations	Source(s)	Multiple Sources & Objectives
Stormwater and Urban Runoff - Preventive Stormwater Quality Improvement Measures	LADWP, GSD, RAP, and others	1) Develop guidelines with instructions for how customers will connect and report. 2) Explain if/how discharge will effect the sewer service charge. 3) Consider requiring a no-cost permit for pool discharge to assist with quantifying water volume. 4) Address allowances for customers without sewer clean out access.	LASAN	✗

Policy Number	Policy Lead	Policy Concept Language		Recommend to Water Cabinet
37	BOE	Develop BMP training and certification programs for construction industry and landscape professionals.		✗
Category	Support	Considerations	Source(s)	Multiple Sources & Objectives
Training and Education (revised heading)	LASAN	1) Create training/certification programs for contractors and other professionals to : Improve understanding of green infrastructure to address disconnect between design and construction. Include performance monitoring program identify gaps and measure success. Consider LA Trade Tech for testing and implementation of BMPs including swales, cisterns. 2) Develop a BMP training/certification program in community colleges to retrain landscape workforce on in proper landscape techniques for water conservation and stormwater capture. 3) Deliver education programs at both high school and university level.	Workshop #5.	✓

3.1 Policies Presented to the Water Cabinet

Another step completed by the One Water LA Team, Executive Management from Los Angeles Sanitation (LASAN), Los Angeles Department of Water and Power (LADWP) and the Mayor's Office was to identify policies requiring the greatest level of City Department and Regional Agency collaboration to propose to Mayor Garcetti's Water Cabinet. The Water Cabinet is comprised of representatives from the Mayor's office including the Chief Sustainability Officer and senior managers from many City Departments including LADWP, LASAN, Department of Recreation and Parks, Bureau of Engineering, General Services Division, and representatives from the City's Proposition O Citizens Oversight Advisory Committee and the Metropolitan Water District of Southern California. The Water Cabinet was formed in 2014 to ensure the City develops long-term projects and policies to ensure water sustainability.

In August 2017 the One Water LA Team presented 10 policies and programs to the Water Cabinet, which are indicated with a green check mark in Table 1. The Water Cabinet will select 2 to 3 policies and programs to champion over the next year. The chosen policies are likely to require substantial management involvement and/or substantial inter-departmental collaboration, which are areas where the Water Cabinet can provide support.

4.0 ONE WATER LA PHASE 1 QUICK-FIXES

In One Water LA Phase 1, City Departments and Regional Agencies were brought together to identify roadblocks to implementing water-related projects and programs and brainstorm on how the City could address challenges, increase efficiencies, and increase opportunities for collaboration. As a result, 47 "Quick-fix" actions and coordination opportunities that each City Department felt they could quickly implement or that Regional Agencies would propose to their senior management were crafted, presented, and confirmed by the Steering Committee.

4.1 Process

The 47 Quick-fixes were initially drafted as a result of 27 individual focus meetings with City Departments and Regional Agencies. The purpose of the focus meetings were to:

- Provide a One Water LA 2040 Plan overview.
- Gain an understanding of the water-related projects, policies, or programs of each City Department or Regional Agency.
- Identify potential integration opportunities.

The Steering Committee policy development process is presented on Figure 7.

The quick-fixes were prioritized and were presented to the Mayor's Water Cabinet. The Cabinet identified seventeen of the quick-fixes as priorities for near-term implementation.

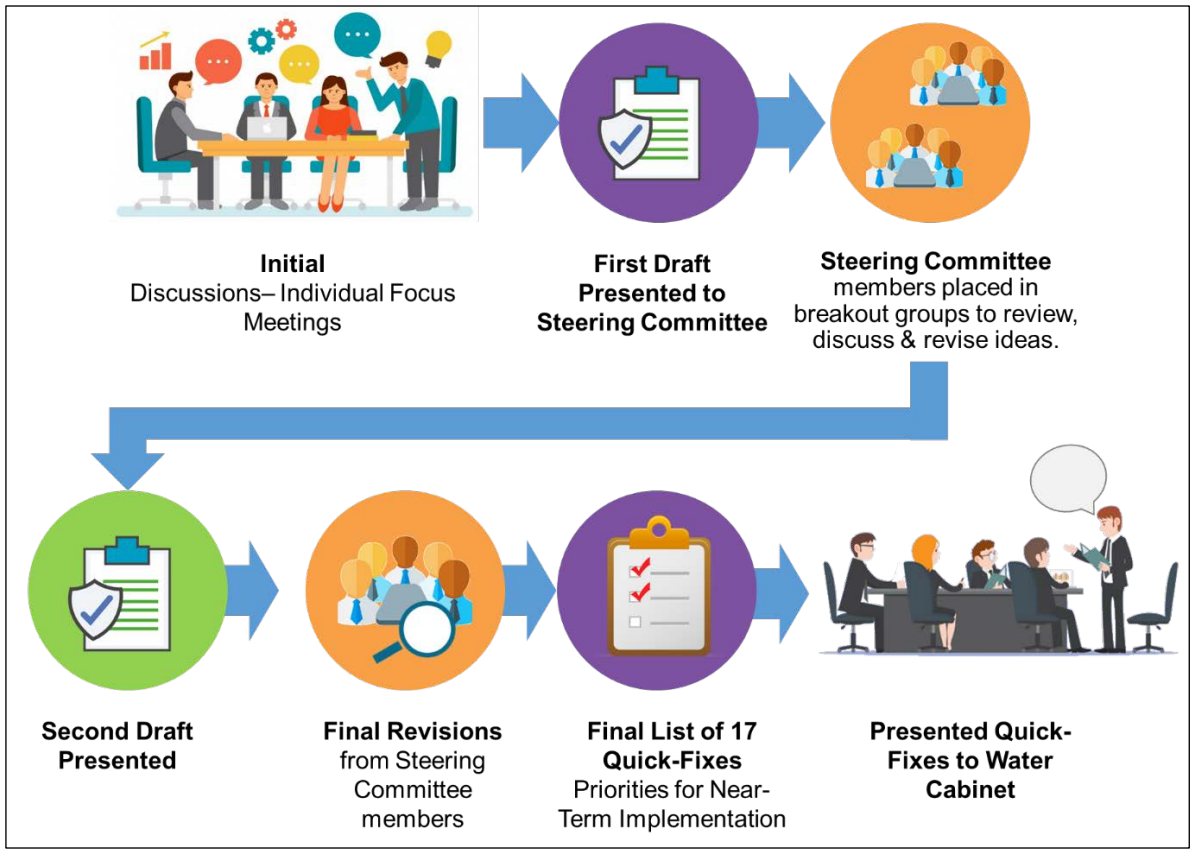

Figure 7 Quick-Fix Development Process

4.2 Quick-fix Recommendations

The 47 quick-fixes developed by the One Water LA Steering Committee during Phase 1, along with their current status, is presented in Table 2.

Table 2 Phase 1 – Quick-Fixes
One Water LA 2040 Plan – TM 13.1

No.	Policy Lead	Support	Policy Language	Current Status
Recycled Water				
1	GSD	LADWP	GSD to explore non potable water or waterless options for cleaning roofs and other facility maintenance activities.	LADWP is currently expanding recycled water pipeline for non-potable uses in all areas of the city where recycled water is available and can be provided at a reasonable price.

Table 2 Phase 1 – Quick-Fixes
One Water LA 2040 Plan – TM 13.1

No.	Policy Lead	Support	Policy Language	Current Status
2[(1)]	LADBS	BOE, LADWP	LADBS shall draft policy language in collaboration with BOE to instruct City Departments to use recycled water for concrete mixing for construction projects wherever feasible.	Concrete Sections 3300, 3310, and 3314 in BOE's Master Specification Library have been updated to allow recycled water for concrete mixing (where recycled water is available).
3	LADWP, LASAN	All City Dept.	All City Departments including POLA and LAWA shall evaluate the use of recycled water (Title 22) for irrigation and recycled water and/or recirculation systems for all vehicle washes.	A feasibility analysis is currently underway that includes an inventory of all City Department facilities, (including vehicle washing locations), and mapping distances to existing recycled water lines.
4	LADWP, LASAN	LAWA	LAWA shall work with LASAN and LADWP to determine the possibility of utilizing recycled water from Hyperion Water Reclamation Plant.	LADWP, LASAN, and LAWA are partnering to deliver advanced treated recycled water generated from Hyperion for use at the Los Angeles International Airport (LAX).
5	LA ZOO	LADWP, LASAN	LA ZOO shall work with LASAN & LADWP to maximize the use of recycled water for non-potable use within the Zoo property.	LA Zoo is open to using recycled water for irrigation, power washing, and aesthetic exhibit uses. One Water LA will continue to work with the LA Zoo and USDA to include recycled water use in their current Master Plan update.
6	LADWP	LASAN, RAP, GSD, LAWA, POLA	LADWP shall work with LASAN, RAP, GSD, LAWA, and POLA to reuse water captured during the dewatering of LADWP Water System pipelines, tanks, and reservoirs that occur during repairs and new construction.	LADWP developed an internal dewatering reuse policy and continues to look for opportunities to reuse water captured during dewatering activities.
7	HSR	LADWP	The City recommends HSR to consider using recycled water for all approved uses wherever feasible including for dust mitigation during construction, for landscaping, and at HSR stations and facilities.	The Authority has an adopted water conservation policy for construction, consistent with Caltrans, which requires non-potable water, as well as alternative dust suppression mechanisms. Design criteria also specify goals for water conservation in facilities. Native and/or non-invasive, drought tolerant species are required for site and alignment landscape; no potable water will be used for site irrigation beyond initial requirements for plant installation and establishment.

Table 2 Phase 1 – Quick-Fixes
One Water LA 2040 Plan – TM 13.1

No.	Policy Lead	Support	Policy Language	Current Status
8	METRO	LADWP	City recommends METRO to evaluate the use of recycled water (Title 22) for bus washes and railcar washes and irrigation.	Metro's Division 13 Bus Maintenance and Operations facility includes a bus wash system utilizing reclaimed water and a non-revenue vehicle wash systems utilizing 100% recycled water. Other locations are also being evaluated for recycled water use.
9	LAUSD	LADWP	City recommends that LAUSD evaluate where feasible the use of recycled water for bus washes and irrigation.	LAUSD is open to using recycled water where it is available. There are currently two campuses using recycled water for irrigation. Three other campuses are still in negotiation for implementation of recycled water use.
Water Conservation & Graywater				
10	BOE	GSD	BOE shall consider prioritizing LEED/Envision points for water during preliminary design & construction of City facilities.	This policy has been incorporated into expanded One Water LA Policy 34 that addresses Envision.
11(1)	LADBS, LADWP, LASAN	All City Depts.	For all new publicly owned developments, evaluate the possibility of requiring drought tolerant plants and use of recycled/reclaimed water for irrigation.	The Model Water Efficient Landscape Ordinance limits the use of turf for new landscaped areas. Recycled water use is required for developments 200 feet from a recycled water line.
12(1)	DCP, LADBS, LADWP, LASAN		For all new private developments, evaluate the possibility of requiring drought tolerant plants and the use of recycled/reclaimed water for irrigation.	Department of City Planning (DCP) is coordinating with the One Water LA Team while developing a draft of the landscape requirements for the Downtown Community Plans (Central City and Central City North). Recycled water use is required for developments 200 feet from a recycled water line.
13	BSS	BOE	BSS shall streamline the permit approval process for drought tolerant plants for all parkways and evaluate the possibility of requiring drought tolerant plants for all parkways.	BSS has expanded the acceptable list of no permit/no fee plants allowable under the Residential Parkway Landscaping Guidelines (RPLG) thereby expediting the installation of residential parkways. BSS has required all non-standard planting in residential parkways to be drought-tolerant or drought-resistant and in general, encourages drought-tolerant plantings in all installations but does not require it.

Table 2 Phase 1 – Quick-Fixes
One Water LA 2040 Plan – TM 13.1

No.	Policy Lead	Support	Policy Language	Current Status
14	GSD, BOE	LADWP, RAP, BSS	GSD shall consider conservation efforts, including requiring water efficient irrigation and drought tolerant plants for new and existing City-owned buildings, where feasible	BOE manages and designs new and renovated landscaping projects, but GSD will indicate their preference for drought tolerant and California friendly landscaping. Efforts have already begun with the recently finished City Hall South lawn and creation of three landscape templates for Fire Stations.
15	GSD, LADWP	BOE	GSD shall continue the effort of installing separate meters for landscape water use and leak detection for City facilities where feasible.	GSD recently started a smart water meter pilot program with LADWP that has leak detection abilities. This is being tested on all the Civic Center buildings. As with new landscaping, BOE is in charge of new building construction (which includes the meter layout and service provision). GSD will indicate their preference for separate irrigation meters.
16	LA ZOO	BOE, BSS, LADWP, LASAN	LA ZOO shall consider water efficient plant palettes in future exhibits and projects.	There are currently no upcoming LA Zoo projects. The LA Zoo will consider water efficient plant palettes in all future projects.
17	LA ZOO	GSD	LA ZOO shall evaluate its computer-controlled irrigation system and make modifications as necessary.	Approximately 75 percent of the LA Zoo has been converted to computer-controlled irrigation systems. The LA Zoo is looking to expand to 100 percent.
18	LA ZOO	LASAN, LADWP	LA ZOO shall consider alternatives for recirculating water systems for specific animal exhibits.	The LA Zoo is currently evaluating the possibility of using recycled water, instead of potable water, for most of their existing recirculating water treatment systems.
19	RAP	LADWP, GSD	RAP shall continue conservation efforts that include reducing the use of turf in new and retrofitted parks and increasing the use of recycled water.	Update in progress.
20	RAP	GSD	RAP shall continue operation and maintenance coordination with GSD on conservation efforts.	Update in progress.

Table 2 Phase 1 – Quick-Fixes
One Water LA 2040 Plan – TM 13.1

No.	Policy Lead	Support	Policy Language	Current Status
Stormwater and Urban Runoff				
21(1)	BOE	LASAN	BOE shall ensure all projects incorporate stormwater capture and/or infiltration through the permitting process.	BOE has modified design standards to encourage infiltration. Developers must obtain LID review and approval before BOE will issue a permit. BOE is reviewing the permitting process to determine best approach to ensure maintenance of systems.
22(1)	LASAN	DCP	LASAN shall evaluate the feasibility of requiring "Green Street" elements (e.g. permeable pavement, bio-swales, etc.) to be incorporated into public right-of-way when public and private development projects trigger public works improvements.	WPD is developing standards for Green Streets elements to be incorporated into the upcoming Public right-of-way ordinance and accompanying Green Stormwater Infrastructure Handbook. This policy is also incorporated into One Water LA Policy 6 that addresses removing barriers and simplifying plans in the public right-of-way.
23(1)	DCP	LASAN	DCP shall evaluate the possibility of requiring new projects to capture a greater percentage than required of their stormwater on-site.	DCP is referencing LASAN's Low-impact Development requirements to incorporate stormwater capture into the updated Zoning Codes.
24(1)	LADOT	LASAN, BSS, BOE	LADOT shall incorporate Green Street elements & other sustainable design options into LADOT's Capital Improvement Plans.	LADOT will consider the feasibility of including green street elements in future solicitations of grants. Need to explore funding opportunities with partner agencies, such as LADWP to potentially expand scope in existing eligible capital projects.
25(1)	LADOT	LASAN	LADOT shall include water resource best management practices into future Joint Development Agreements involving City-owned off-street parking facilities.	No action as yet initiated to develop standard requirements in Joint Development Agreements. Recent JDA's are for structured parking only. LADOT will work with LASAN to incorporate BMP practices into future JDAs.
26	LAWA	LASAN	LAWA shall continue to incorporate stormwater capture Best Management Practices (BMPs) where feasible including large parking lots.	The current LID Ordinance requires the implementation of BMP's that help to reduce stormwater/urban runoff while improving water quality. All LAWA Projects currently implement LID Requirements.
27	LA ZOO	LADWP, LASAN, RAP	LA ZOO shall coordinate with LASAN and LADWP to monitor and measure stormwater use onsite.	Stormwater capture is currently being monitored by LASAN. LA Zoo is working with One Water LA and United States Department of Agriculture (USDA) to help incorporate stormwater capture elements into their Master Plan update.

Table 2 Phase 1 – Quick-Fixes
One Water LA 2040 Plan – TM 13.1

No.	Policy Lead	Support	Policy Language	Current Status
28	POLA	LASAN, LADWP	POLA shall continue to work with LASAN to implement BMPs for stormwater in construction or reconstruction projects.	Current LID Ordinance requires the implementation of BMP's that help to reduce stormwater/urban runoff while improving water quality All POLA Projects currently implement LID Requirements.
29	RAP	LADWP, LASAN	RAP shall maximize stormwater capture and use for irrigation of golf courses and parks.	RAP has coordinated with LASAN on identifying stormwater capture opportunities for Rancho Park and will continue to work with LASAN and LADWP to identify additional opportunities.
30(1)	RAP	LASAN	RAP shall work with LASAN to evaluate low flow diversions to sewers for potential reclamation.	RAP will continue to work with LASAN to evaluate low flow stormwater diversion opportunities in new and upgraded parks. Additional One Water LA policies are intended to reduce turf and increase conservation will limit dry-weather runoff from parks.
31	HSR	LADWP, LASAN	The City recommends HSR to work with LASAN and LADWP on stormwater capture, infiltration, and other conservation opportunities including updating drought tolerant plant palettes along HSR alignments and at HSR facilities, including stations.	Stormwater capture is required in station and facility design criteria. Per non-traditional permittee designation in the MS4 General Permit and Authority design criteria, stormwater treatment control strategies prioritize infiltration, harvest and re-use and/or evapotranspiration using low-impact development BMPs. Harvest and re-use opportunities are greatest at stations and other non-linear facilities. Native and/or non-invasive, drought tolerant species are required for site and alignment landscape; no potable water will be used for site irrigation beyond initial requirements for plant installation and establishment. Along the majority of linear right-of-way the space available, distances involved and reliance on gravity drainage may limit re-use opportunities and a focus on infiltration is anticipated. The Authority is working with the City of Los Angeles to identify stormwater capture, infiltration, and reuse opportunities along the HSR alignment that could integrate with local projects.

Table 2 Phase 1 – Quick-Fixes
One Water LA 2040 Plan – TM 13.1

No.	Policy Lead	Support	Policy Language	Current Status
32(1)	LASAN	HSR, LADWP	The City recommends HSR to work with LASAN on stormwater diversion strategies, including low flow diversion to the sanitary sewer system, along HSR alignments and at HSR facilities and stations.	The Authority will continue to work with the City of Los Angeles to identify low-flow diversion opportunities along HSR alignments and at HSR facilities and stations.
33(1)	METRO	LADWP, LASAN	City recommends METRO to coordinate with LASAN's Enhanced Watershed Management Program Plans (EWMPs) and LADWP's Stormwater Capture Master Plan (SCMP) wherever feasible to capture stormwater runoff on Metro sites.	Update in progress.
34(1)	LAUSD	LADWP, LASAN	City recommends that LAUSD coordinate with LASAN's EWMPs and LADWP's SCMP wherever feasible to capture stormwater runoff at LAUSD owned sites.	LAUSD has implemented several projects that capture on-site stormwater and they are working with One Water LA to determine potential for a pilot project that captures off-site stormwater runoff onto a school site.
General				
35	BOE	LADWP, LASAN	For all BOE Capital Improvement projects, BOE shall coordinate with LASAN and LADWP to identify opportunities for achieving One Water LA objectives and provide project management/ design/ construction management services where required.	BOE will include a section in their predesign reports to identify opportunities for One Water objectives. Environmental Engineering Division (EED) has already included a section on Envision in each pre-design report.
36(1)	DCP	LADWP, LASAN	DCP shall evaluate and modify applicable codes as part of recode: LA and future efforts to align with all One Water LA objectives.	Coordination with One Water LA Team is on-going. Draft code provisions have been shared with LASAN One Water staff and their feedback is being incorporated.
37	GSD	BOE	GSD shall follow-up with audits for City buildings under their purview.	GSD benchmarks water use at all city buildings, looking for big users and spikes in consumption.

Table 2 Phase 1 – Quick-Fixes
One Water LA 2040 Plan – TM 13.1

No.	Policy Lead	Support	Policy Language	Current Status
38	GSD	LASAN	GSD shall consider developing a City Directive to require a facilities expert/manager to manage City-owned buildings.	GSD has not created a directive for City owned facilities to have a manager at City owned buildings, but does already have facilities managers at many of these buildings and is actively monitoring consumption through benchmarking software.
39	DONE	LASAN	DONE shall work with LASAN to develop an outreach strategy for water sustainability for the Neighborhood Councils.	One Water LA has developed Public Engagement and Communications Plans. Both plans involve neighborhood councils as key stakeholders.
40(1)	LADBS	LADWP, LASAN	LADBS shall evaluate tracking the installation of existing and future graywater systems where feasible.	Simple and complex graywater systems are currently tracked by LADBS. The City is evaluating the feasibility of tracking laundry-to-landscape graywater systems.
41(1)	LADOT	LADWP, LASAN	LADOT shall expedite the design review of One Water LA related projects from other Departments.	There are currently no projects for review.
42	LASAN	All City Dept.	All City Departments shall consider expediting the design review of One Water LA related projects from other Departments.	This policy has been incorporated into expanded One Water LA Draft Policy 17 that addresses expediting projects that meet One Water LA, Sustainable City pLAn, and/or EWMP Goals.
43(1)	Mayor's LA RiverWorks Team	LASAN, LADWP, RAP	Mayor's LARiverWorks team shall cooperate with LADWP, LASAN, RAP and other departments and regional agencies as necessary to align watershed health and other water resource goals with LA River revitalization.	The Los Angeles River Cooperation Committee (LARCC) is a joint working group that meets on a quarterly basis, to share information, evaluate, and make recommendations about public, private, and non-profit sector projects along the upper reach of the Los Angeles River. LARCC includes BOE, RAP, LADWP, LASAN and other agencies. One Water LA is part of the LARCC-Water Focus Group. Recommended One Water LA Action 19 provides additional considerations.
44	Caltrans	LADWP, LASAN	The City recommends Caltrans to continue working with LADWP and LASAN on stormwater and recycled water related efforts and implement stormwater and recycled water programs and projects for all approved uses in collaboration with LADWP and LASAN wherever feasible.	LADWP is working with Caltrans to expand recycled water use along the 170 freeway where economically feasible.

Table 2 Phase 1 – Quick-Fixes
One Water LA 2040 Plan – TM 13.1

No.	Policy Lead	Support	Policy Language	Current Status
45(1)	METRO	LADWP, LASAN	City recommends METRO to consider incorporating credits for stormwater BMPs & recycled water use into grant application process.	Metro's Call for Projects includes Sustainability Metrics for inclusion of Low Impact Development BMPs, and for the use of recycled water, greywater, or captured rainwater for landscape irrigation.
46	METRO	LASAN	City recommends that METRO coordinate with City and regional grantees for implementation of sustainable water practices.	Metro's Countywide Sustainability Annual Report uses sustainable case studies to provide progress updates. The case studies involve the City and many other partners and include stormwater capture, conservation, and recycled water use.
47	SCAG	LASAN, LADWP	The City recommends that SCAG incorporate One Water's water-related climate change mitigation & adaptation strategies into the Regional Transportation Plan, Sustainable Communities Strategy and other areas of opportunity.	Update on progress.

Note:
(1) Identified as Water Cabinet priorities.

5.0 OTHER CATEGORIES

A list of policy ideas was compiled by collecting and refining ideas from the Steering Committee, Stakeholder, Special Topic Group meetings, and suggestions from other planning efforts. Those ideas that were not policies or programs were placed in 5 other categories, which are described in further detail in the following Sections:

- Research Ideas
- Action Items
- Additional Recommendations
- Accomplished or In-progress
- Beyond Scope

5.1 Accomplished or In-Progress

The accomplished or in-progress table (Table 3) lists the policy, program, actions and/or studies suggested during the idea solicitation phase that are currently being undertaken or have already been completed. The matrix includes a brief description of the progress that has been made by the respective City department(s).

5.2 Research Ideas

The research ideas list (Table 4) was created as some ideas needed additional investigation. In some instances, a desk-top research analysis will be sufficient; however, other ideas will involve more in-depth evaluation and study to sufficiently address the issue and topic. The items may be addressed in-house by the City, completed in collaboration with academia, and/or researched in collaboration with other City Departments or Regional Agencies.

5.3 Action Items

The Actions table captures ideas that are action-oriented and too narrow or specific to be considered as policies. Lead and supporting agencies will evaluate and develop plans to address these ideas (Table 5).

5.4 Additional Recommendations

Additional recommendations are ideas that were not selected during the prioritization process for further development or advancement in the One Water LA Plan at this time. An explanation of the rationale for not advancing the idea is included in the response column. The ideas have been documented so they may be revisited in the future (Table 6).

5.5 Beyond Scope

Many ideas provided to the One Water LA team are important for the City to address. However, some of the ideas received are beyond the scope of the One Water LA planning effort. Those ideas are captured in the "Beyond Scope" table (Table 7) for the City to review in other city-wide planning efforts.

Table 3 - Accomplished or In-Progress

Ref. No.	Policy Lead (Support)	Policy Language	Response	Source
A1	LADWP	Modify current Turf Removal Program to include stormwater capture. Create an incentive for rain garden installation.	Completed. LADWP modified its Turf Removal Rebate Program to require projects incorporate stormwater capture elements, which includes rain gardens.	Stormwater STG, Stakeholder Workshop
A2	LADWP	Create an incentive for residential cisterns.	November 2015, LADWP added cisterns to the rebate program. On August 1, 2016, LADWP revised the rebate to a volumetric incentive and increased incentives to a maximum of $500 for large rain tanks over 1,000 gallons.	Stakeholder Workshop
A3	LASAN	Do sub-regional projects. Have incentives for large landowners that go beyond LID requirements.	Incentives are addressed in other recommended policies. Sub-regional planning is already taking place for EWMPS.	Workshop #5
A4	LASAN (BSS, LADOT)	Incentivize agencies to install and maintain linear right-of-way for stormwater capture.	Public Right of Way LID Ordinance in development that will require right-of-way stormwater capture.	Workshop #5
A5	DCP (LADWP, LASAN)	Assure Re:Code LA, Mitigation Measures, and Community Plans updates encourage and include Stormwater Capture, Water Conservation and Recycled Water Use.	Re:Code LA team is orchestrating departmental workflow changes to frontload the design of LID requirements into a project (DCP). One Water LA Team working with Re:Code and General Plan Team.	Top Stormwater STG, Steering Committee
A6	LASAN (LADWP)	Conduct a cost benefit analysis and consider benefit-based funding.	High-level cost-benefit analysis is part of One Water LA Planning effort. Benefit-based funding has been included as a future research suggestion.	Workshop #5
A7	LADWP	Clean up San Fernando Aquifer. Are there any policies focused on aquifers and groundwater in regards to cleaning and maintenance?	Groundwater cleanup is led by LADWP's Groundwater Planning Group.	Stakeholder Workshop, Workshop #5
A8	BSS (LASAN, LADWP, BOE)	Develop residential parkway landscape guidelines.	Residential parkway guidelines are in place and continue to be updated. Policy 6 addresses simplifying plans and removing additional barriers.	Workshop #5
A9	LASAN (METRO)	Work with METRO to help include stormwater capture and green infrastructure in their grant programs.	<u>Considerations</u> 1) Work with Metro to include and acknowledge value of green infrastructure in their grant program criteria. 2) Collaborate with METRO to create definitive standards for stormwater capture <u>Response</u> Working with Metro and will continue to provide progress updates.	Top Stormwater STG, LHF #33, #45
A10	LASAN, LADWP (All City Dept.)	Evaluate the feasibility of establishing a reliable source of money for integrated project elements.	One Water LA Funding Technical memo is exploring financing models for creating a reliable source of funding for integrated projects.	Steering Committee

Table 3 - Accomplished or In-Progress

Ref. No.	Policy Lead (Support)	Policy Language	Response	Source
A11	LADWP (LASAN)	Participate in advancing regulations for approval of direct potable reuse.	LADWP is closely monitoring and providing inputs into DPR regulations. The department is also actively involved in sponsoring and guiding research and studies to help inform regulators on DPR topics.	LASAN, Workshop #5
A12	LASAN (LADWP)	Prioritize policies based on fulfillment of One Water LA Goals and Objectives.	Considerations 1) Include goals and targets to prioritize policies. External requirements from outside agencies need to be highlighted and listed. Purpose and need should be listed. 2) Apply Guiding Principles **Response:** Policies have been associated with Objectives and Guiding Principles. Details to be developed for top policy recommendations.	Workshop #5
A13	LASAN (All City Dept.)	LID 1) Update and strengthen LID program and enforcement. 2) Encourage transitional voluntary LID implementation (retrofit). 3)Require Green Street implementation whenever work is proposed by public agency in the public right of way.	Responses 1)LID is being updated and expanded - There is a new handbook. 2) Voluntary LID program is being implemented through Watershed Approach Incentive. 3) Ordinance requiring LID implementation in the public right-of-way has passed. Guidelines and handbook are in development and will be soon be in place.	Workshop #5, LADWP
A14	LASAN LADWP, LA RiverWorks	Balance push for reduced flows in the Los Angeles River with goal of native habitat sensitivity with TMDL impacts. Policy of reduced dry-season flows in the LA River should consider the impact on TMDLs.	One Water LA River Study is addressing this suggestion in its outcomes. The flow study will identify further studies needed.	Workshop #5
A15	LASAN, Mayor's Office	Explore Stormwater Fee/Tax Options.	Consideration: Develop an integrated planning approach with the County and other Cities. Progress: The City is working with LA County on a regional Stormwater funding approach. One Water LA is exploring additional funding options under Funding Strategies and the SW facilities Plan.	Funding STG (top recomm)
A16	LASAN	Expand opportunities for dry weather diversions for water supply augmentation.	Dry weather, low-flow diversions are being considered in the One Water LA long-term alternatives analysis.	LASAN, IRP Go
A17	LASAN, LADWP	Balance activities from distributed and regional projects to create an optimal suite of practices.	This is the approach that One Water is taking in developing the 2040 Plan.	Workshop #5

Table 3 - Accomplished or In-Progress

Ref. No.	Policy Lead (Support)	Policy Language	Response	Source
A18	LASAN (LADWP)	Utilize cross promotion opportunities with City Dept. and Regional Agencies (LAWA,LAUSD, RAP, etc.) to spread the One Water LA message.	One Water is coordinating with Save the Drop and the La Kretz Center and has developed a partner badge for web-sharing. Additional Activities: Continue and expand coordination with City Departments and Regional Partners.	Steering, LASAN
A19	LASAN, LADWP	Include funds for capital and operations and maintenance in One Water LA Plan Funding Strategies.	Funding Strategies for operations and maintenance are included in stormwater and wastewater facilities plans. The Funding Strategies Task has a cost-sharing tool that could address O and M funding.	Funding STG
A20	LASAN	Consider the entire State Bonds- not just Prop 1 water bond, but also money for parks, open space, habitat and climate change.	Funding from multiple sources including parks bonds have been evaluated as par of One Water Funding Strategies Task.	Funding STG (top recomm)
A21	LADWP (LASAN)	Develop "Fit For Purpose" recycled water treatment standards, allowing for differing levels of water treatment in recycled water projects based on the end use of that water.	These guidelines are already State Standards.	WPD
A22	LADWP	Tie conservation gpcd to pLAn goals	Completed. LADWP reports out GPCD in UWMP. Mayor's Goals, SWRCB, are all Water Cabinet reporting metrics.	Workshop #5
A23	LADWP	Develop more landscaping requirements using MWELO as a starting point - all landscapes should have SoCal native/ drought resistant plants.	MWELO is being implemented through Building and Safety.	Workshop #5
A24	LADWP	Require dual metering where possible in new development or retrofits. Include preventative measures that can result in water use efficiency - example: water meters.	1) Dual metering is required for new development in new City Ordinance. 2) All customers already fully metered and new developments also required to have irrigation meters if meet size threshold.	Workshop #5
A25	LADWP	Review state water board's recent draft on statewide conservation; add something on water neutrality / net zero to policies.	LADWP is working closely with the Department of Water Resources and the State Water Resources Control Board on development of Long-Term Water Conservation Regulations.	Workshop #5
A26	LADWP	Prioritize partnerships with high water users.	This is already incorporated into Water Conservation Ordinance	Workshop #5
A27	LADWP	Increase water conservation education.	There is already a robust public outreach and school education conservation programs with a budget of $2 million/year.	

Table 3 - Accomplished or In-Progress

Ref. No.	Policy Lead (Support)	Policy Language	Response	Source
A28	LADWP	Collect more data on indoor/outdoor usage split of different property types.	LADWP is participating in numerous local, state, and national landscape studies that will provide more information on this topic. In addition, LADWP is working with State Agencies on the development of Long Term Water Conservation Regulations that will include the development of indoor and outdoor water budgets, and provide additional information.	Workshop #5
A29	LADWP	Consider modifications to tiered-pricing structure to incentivize water conservation and stormwater capture.	Tiered water rates are in effect. Vehicle for crediting is addressed in One Water LA policy 22.	Workshop #5
A30	LASAN, LADWP	Establish policy for how DWP and LASAN collaborate and cooperate.	LADWP and LASAN already cooperate and collaborate through One Water LA and several partnership MOA's. One Water LA is designed to increase collaboration between all City departments and there are multiple policy recommendations that facilitate partnerships including standardizing agreements, a shared database, and a framework for working together beyond the Plan's development phase.	Workshop #5
A31	LADWP, LASAN	Establish a loading order to equalize assessment of distributed projects versus other types of projects.	LADWP has developed criteria to prioritize projects with metrics that include: initial cost, yield, ownership of project sites, compatible uses, partnership opportunities and operating costs. The criteria provides an initial assessment of project potential and may also be used to identify additional water-supply opportunities for planned, or shovel-ready projects. The criteria will be reviewed and considered for wider adoption in One Water project planning.	Workshop #5
A32	Mayor's Office	Create Centralized Authority - Water Czar to make sure jurisdictions collaborate so that the most efficient projects are promoted.	The mayor's Water Cabinet fulfills this function.	Workshop #5
A33	Mayor's Office	Explore need for a Regional Cabinet - modeled after the Mayor's Water Cabinet - to include agencies such as METRO, LACSD, etc.	The One Water LA Steering Committee includes regional agencies and will continue meeting. The IRWMP Leadership Committee is another forum for collaboration and a County Resiliency Committee has recently formed. Suggestion will be referred to Water Cabinet for additional consideration.	Steering Committee, GRASS, Partnerships STG

Table 4 - Research Ideas

Ref. No.	Research Idea	Considerations	Source
R1	Explore program to create a treebate incentive.	1) Reach out to air quality and regulatory bodies as potential funding sources. 2) Maximize siting of trees for energy savings. 3) Explore how to incorporate into green streets efforts. 4) Contact Darryl Jennertte from UCR regarding his Tree Study	Stormwater STG
R2	Evaluate the benefits of heat resistant trees and develop sustainable tree guidelines	LASAN has developed a list of heat-resistant trees to use as a starting point.	Stormwater STG
R3	Review Santa Monica net zero ordinance for development of policies on stormwater and rainwater tracking.		
R4	Explore Joint Power Authorities' (JPA) to create a governance structure that helps streamline joint-financing for project implementation.	Exploration of JPAs as a financing structure will be included as a recommendation in the Funding Tech memo in the One Water LA Plan.	SCMP
R6	Explore potential for septic system retrofit into blackwater systems instead of connecting to sewer system.		Workshop #5
R7	Explore funding models that allow for agency financial stability while transitioning to expanded decentralized water management implementation strategy.	Seek funding models that allow balanced approach to employing centralized, sub-regional and decentralized projects.	Project Workshop
R8	Continue to monitor the costs and viability of solar and other renewable energy at each WRP. Evaluate rebates and other funding opportunities.	Consider adding solar for green energy and lowering treatment cost.	BOE
R9	Conduct study to monitor implications/impact of decentralized onsite treatment facilities implementation on centralized system.	Study is needed to evaluate potential indirect negative impacts of OSTFs on centralized facilities (impacts to inflow, which then impact effluent quality, etc.). Intent to assure balance between centralized and decentralized water treatment systems that enables the two systems complement and support each other.	Workshop #5, WPD (Waterbuild Charrette)
R10	Conduct Additional Research to Further Improve Stormwater Greenways Routes.	One example opportunity is to work with private organizations, such as healthcare companies, to collect relevant GIS data that is currently inaccessible or proprietary to pinpoint areas where park poverty has the greatest impact on public health.	GRASS
R11	Research property value benefits of adding green infrastructure.		Stormwater STG
R12	Research and quantify benefits of increased partnerships between public agencies.	The multi-agency collaborative (MAC) was suggested as a potential resource. UWIN Research Collaborative should also be considered.	Funding STG

Table 4 - Research Ideas

Ref. No.	Research Idea	Considerations	Source
R13	Conduct research to accurately quantify removal efficiencies of BMPs and applicability of BMPs within the City.		LASAN
R14	Conduct research to accurately quantify the benefits of Green infrastructure (i.e. UHI effect, GHG reduction, Ecosystem benefits, etc.)		LASAN
R15	Develop study to test if projects implemented and maintained by more highly trained professionals leads to higher water quality and water supply benefits.		Project Workshop
R16	Research viability of commercial scale composting toilets.	Identify process for streamlining permitting if viable.	Workshop #5
R17	Explore other cities efforts to provide liability protection for groundwater contamination for entities accepting offsite stormwater.	Liability protection methods, including Good Samaritan Clause are being explored through One Water partnership with LAUSD. 1) Consult City Attorney regarding potential impact on City's ability to recover cleanup costs from potentially responsible parties. 2) Develop protocols for what adjacent land uses will be allowed for projects.	Steering Committee (LAUSD), SCMP
R18	Conduct research to determine if graywater systems result in water savings before considering incentives.	LADWP has completed a review/analysis of graywater potential water savings. Review this study and consult with academic partners and interested stakeholders to determine additional study needs.	Decentralized STG
R19	Evaluate any impacts of OSTFs to water quality where it pertains to groundwater and/or drinking water.	Research potential liability or safety issues associated with private system recycled water operations and maintenance, and infiltration into the groundwater basins.	Decentralized STG
R20	Evaluate best stream protection policies to incorporate into waterways planning.	Review previous version of ordinance.	Stakeholder Workshop
R21	Develop collaborative framework for planning LA waterways beyond LA River.	<u>Considerations</u> 1) Increase coordination and expand community engagement in planning for all waterways. 2) Include Ballona Creek, and other creeks and streams. 3) Include Water budgeting for nature (e.g. stream flows, creeks, etc.)	Workshop #5, LASAN

Table 4 - Research Ideas

Ref. No.	Research Idea	Considerations	Source
R22	Evaluate a new or modified system for tracking all dewatering operations in the City of Los Angeles."	1) IWMD track, monitor, and enforce all dewatering projects discharging into the sewer and storm drain. 2) WESD create shapefile with project location, ongoing/one-time, permanent/temporary, timeline, flow quantity(ies) to determine water recharge opportunities. 3) Determine how flows > 10,000 gpd are metered and require all metering on flows > 10,000 gpd. 4) Work with RWQCB to require NPDES permittees to pay LASAN for stormdrain fees (change ordinance per MS4 - cost for treating stormwater and fines/fees). The cost of these dewatering fees will be equal to those of discharging in to the sewer. 5) Modify grandfathered stormwater permittees and require them to discharge to the sewer (this can be gradual and over time). 6) Create a 3rd category in IWMD's PIMs database (significant industry, industrial, and dewatering). This will allow tracking of dewatered water in the City.	LASAN, Stakeholder Workshop #4
R23	Evaluate impacts on infrastructure (such as LFD's) when dewatering operations and groundwater upwelling occurs.	Industrial Waste and Financial Management Division to support effort.	LASAN, Stakeholder Workshop #4
R24	Explore benefit-based funding models.	Research benefit-based funding models to facilitate cost sharing for multi-benefit projects.	Workshop #5
R25	Use advanced rainfall-hydrology modeling to quantify pre-storm capture.	1) A computer model is needed for the entire water system to show impact of solutions like Groundwater on other elements of the water balance/system (STG) 2) Water balance modeling efforts should consider water held in soil	LA Basin Study, Decentralized STG, Project Workshop

Table 5 - Action Items

Ref. No.	Policy Lead (Support)	Action	Considerations	Source
AC1	Public Works (LASAN, BSS)	Strategically expand and improve street sweeping program.	1) Conduct inventory to determine additional areas of need and install street parking signage as needed. 2) Account for seasonal impact and pollutant level in analysis. 3) Monitor efficacy to determine if program should be expanded. 4) Consider requiring vacuum sweepers to improve WQ in areas with high pollutant loading. 5) Strengthen collaboration between LASAN and BSS to implement enhanced street sweeping for water quality compliance.	Project Workshop
AC2	BSS (LASAN, BOE)	For industrial companies that have onsite systems - send industrial stormwater to the sewer.	1st action is to gather more information about current process from WESD.	
AC3	BOE OCB (LASAN)	Modify Maintenance Agreement for Adopt a Median Program to allow landscape businesses and NGOs to more easily participate.		
AC4	LASAN (All City Depts.)	Implement Public Right-of-Way Low Impact Development Standards for LA River tributary streets.	1) Coordinate with DCP and RIO Ordinance requirements. 2) Leverage LID ROW ordinance and handbook (under development) to implement.	Steering Committee (LA Riverworks)
AC5	LASAN (LADWP)	Review current purple pipe policy to reflect trend toward IPR and potential DPR.		
AC6	LASAN	Expand trash collection and education program to improve source control of trash entering storm drains and water bodies.	1) Conduct inventory and install more trash bins as needed. 2) Address bulk trash items in policy. 3) Include sustained trash bin maintenance. 4) Expand composting and recycling bin programs. 5) Expand education on BMPs regarding source control. 6) Consider using colors and graphics on public receptacles to better indicates what goes where.	Project Workshop

Table 5 - Action Items

Ref. No.	Policy Lead (Support)	Action	Considerations	Source
AC7	LASAN, LADWP (Water Cabinet)	Define metrics to measure One Water LA implementation progress and benefits achieved.	Context: Clear metrics and help the public understand the benefits of the Plan's implementation. Suggested metrics include: Stormwater quality improvements, amount of stormwater captured, amount of local water supply increase, money saved (efficiencies), property value increases with green infrastructure/ landscaping / sustainability improvements. Recommendation: Include Academia for third-party assessment and monitoring of milestone achievements.	Outreach STG, Stormwater STG
AC8	BOE (LASAN)	Develop the incremental costs to upgrade the Wastewater Reclamation Plants from existing to future facilities.	Context: Existing facilities are based on meeting current regulatory requirements. Based on portfolios and triggers, the costs to add treatment in the future by process, should be determined for potential Water Rates and Charges. This evaluation should be completed for all Plants and all levels of water quality. Projected rough order of magnitude (high level) cost will need to be available to support/market all future projects.	BOE
AC9	LASAN (LADWP)	Develop a framework for establishing the delineation of responsibilities related to water quality levels for all WRP. This would be a foundational effort when considering future agreements for WRP effluent and usage.	Review West Basin's agreement and lessons learned, particularly as related to water quality. Steering Comments: MWD grants rebate - make common price list and water account available. Suggest yearly combined water account be published for the CLA w/ MWD	BOE
AC10	LASAN	Share resource links on One Water website to provide watershed approach landscape design templates for different parcel shapes as resource for residents.		LASAN
AC11	LASAN, HSR, METRO, LADOT (LADWP)	Pursue opportunities for groundwater recharge in San Fernando Valley for HSR projects and potentially other transportation agencies.	Investigate appropriateness of groundwater recharge along alignments and make it a priority where appropriate. Continue to meet with HSR and discuss opportunities once preferred alignment is determined.	Steering Committee
AC12	BSS (LASAN)	Create an education and enforcement program for the Tree Pruning Policy	Develop a tree pruning policy and public education program on who is allowed to prune trees on public land.	Stormwater STG

Table 5 - Action Items

Ref. No.	Policy Lead (Support)	Action	Considerations	Source
AC13	LASAN (LADWP)	Include requirement in stormwater permit to have a certain rate of infiltration to do a bio-swale, or require engineered soil.	Context Existing soil, that is de-compacted has good soil biology, performs well for infiltration, retention and filtration. Detention time is needed for microbiology to act on pollutants and it can do so without the cost of replacing (and disposing of) in-situ soil. Note: Performing soils tests may not be feasible for small parcel based projects.	Workshop
AC14	TBD	Develop a program that creates a greater use of State Revolving Funds for multi-benefits projects.	Next step: Determine lead and support departments.	Funding STG (top recomm)
AC15	LASAN	Expand mulch program to include neighborhood scale deliveries and explore how to increase size and quality of mulch.		Project Workshop
AC16	BOE (LASAN, LADWP)	Prioritize map layer that includes sidewalk widths to prioritize opportunities in sidewalk repair program.		Project Workshop
AC17	LASAN (LADWP)	Determine the best process for the City to manage a comprehensive and coordinated approach to seeking and managing grant funding opportunities.	Consider establishing managing entity with full time dedicated grant writers. First steps are evaluated in One Water LA Funding Strategies Tech Memo.	Living Streets, Steering Committee
AC18	LASAN	Develop program similar to LADWP Droughtbusters for Water Quality enforcement activities.		Post-Workshop

Table 5 - Action Items

Ref. No.	Policy Lead (Support)	Action	Considerations	Source
AC 19	LADWP, LASAN, LA River-works (Regional Agencies, BOE, PAO)	Balance LA River habitat health with water quality and quantity.	1) Projects planned withing the Los Angeles River Improvement Overlay (LA-RIO), need to coordinate with the LA Riverworks. Increase collaboration with River works office and LAR cooperation committee. 2) Increase meetings and have set time to discuss and collaborate. 3) Think watershed ecologically and socially approach for LAR, including other counties and other jurisdictions. 4) Acknowledge partnerships with private entities. 5) Investigate Guadalupe River planning in Northern California as a potential model. 6) Balance effort to allow for Rec. 1 uses. 7) Consider that river was historically dry in summer. 8) Remove invasive "water thirsty" plants. 9) Work with nurseries on network of native/climate resilient plants. 10) Consider micro-climates. 11) Consider cost impacts including managing flows. 12) Consider the flow needs and cumulative impacts for the entire length of the LA River.	Stakeholder Workshop (world café), Steering Committee (LA Riverworks), Project Workshop, LA Basin Study, Workshop #5

Table 6 - Additional Recommendations

Ref. No.	Idea	Response	Source
AR1	Consider longer planning horizon so that project portfolios can be considered over multiple lifecycles.	Context: Over the long-term, existing infrastructure will not be here. The challenge is how to balance multiple lifecycles with how we save money today. Response: The cost estimates prepared for the concept options evaluated in the One Water LA portfolios are based on full life cycle cost. The depreciation period used for capital cost estimates varied based on the type of project components (e.g. treatment facilities have much shorter life span than pipelines). The life cycle costs include both amortized capital and annual O&M cost to provide a fair comparison between different options.	Project Workshop
AR2	Consider revising Graywater standards to include eco-roof irrigation requirement.	This recommendation was voted as a low priority by Stormwater Special Topic Group. No Action will be taken at this time.	Stormwater STG
AR3	Have more public restrooms in heavy foot traffic areas.	Suggestion will be referred to the Mayor's Office.	Workshop #5
AR4	Work with regulatory agencies to integrate the stormwater and wastewater collection system (Hybrid MS4)	Low-flow diversions are being considered in the One Water LA Plan. The City is not pursuing a combined system.	Workshop #5
AR5	Consider Feed in Tariff as suggested in LA Basin Stormwater Conservation Study.	Funding options have been evaluated in One Water LA Funding task.	Workshop #5
AR6	Decouple wastewater fees from volume served so that funding is not lost as flows, especially outdoor, decrease.	This idea was submitted as a discussion point under conservation. Captured for future discussions.	UCLA
AR7	Explore development of Bonus for increased Floor to Area Ratio for new development projects that go beyond LID requirements.	<u>Considerations</u> Consider Bonus Increase for: 1) Building a park on an adjacent property 2) Treating stormwater from surrounding neighborhood. Assure that additional areas do not create higher water demands. Include requirements that ensure extra green space is created. Consider sunset clause. **Response:** DCP is bound by State Density Bonus law and new regulations imposed by ballot measure JJJ which require that residential development bonuses be tied to affordable housing. As a result, the Re:Code LA team anticipates there will be very little, if any, development bonus remaining beyond these requirements, and this bonus will be prioritized by community plan needs. No Action will be taken at this time.	Stormwater STG
AR8	Better reporting - get water usage data monthly at address level for analysis; programs	This request is against privacy laws.	Workshop #5

Table 6 - Additional Recommendations

Ref. No.	Idea	Response	Source
AR9	Conduct exercise that all decentralized opportunities for stormwater and recycled water are maximized first before moving to centralized.	The city seeks a balanced approach of centralized, sub-regional and decentralized projects. Green streets and other decentralized opportunities are in One Water LA's Stormwater Capture Facilities Plan. EWMP's also rely heavily on decentralized approaches.	Project Workshop, Workshop #5
AR10	Develop pilot graywater rebate program for residential, commercial and industrial properties.	The Decentralized Special Topic Group recommended conducting further research before developing incentives to promote graywater systems. LADWP has also conducted an analysis of potential water savings and based on the results it is not pursuing a graywater pilot or rebate program at this time. LADWP already provides a graywater incentive for commercial customers.	Workshop #5

Table 7 - Beyond Scope

Ref. No.	Idea	Response	Source
B1	Create Policy to minimize lawns.	Planning Department determines maximum impervious cover. Minimizing lawns is already encouraged through turf rebate program.	Workshop #5
B2	Implement water policies that limit growth and encourage what growth there is to be integrated into existing infrastructure We need to preserve open space, limit growth and hold water demand. Limit development based on available water supply - density is not equal to building mass.	Request is beyond the scope of One Water LA.	Workshop #5
B3	Reassess liquefaction zones to maximize capture opportunities.	Liquefaction zones are set by USGS so and City cannot reassess on its own. The One Water LA Team will set up a meeting with the USGS to discuss reassessment opportunities.	Workshop #5
B4	Expand or revise the ASCE database.	Revising ASCE BMP database is beyond scope of One Water LA.	Workshop #5
B5	There is a need for smart growth policies.	Request is beyond scope of the One Water LA 2040 Plan. One Water LA team is coordinating with DCP on Re:Code and General Plan Updates.	Workshop #5
B6	Create a process to evaluate the embedded energy and other resource impacts of materials in a project at the planning stage.	Policy is beyond scope of One Water LA and will be forwarded to Mayor's office for consideration.	Stakeholder Workshop
B7	Use a watershed framework to consider waterways floodplain reclamation.	This is LA County Flood Control jurisdiction.	Workshop #5
B8	Increase enforcement of dry-weather discharge.	Context: The millions of gallons of dry-weather flow that reach County's low-flow diversions along the coast show that there is a large need to increase enforcement of dry-weather discharge, which would benefit conservation efforts and water quality. Response: Dry-weather discharge enforcement is regulated by the MS4 permit.	Project Workshop (LA County)
B9	Create jobs for tree/plants landscape industry.	Request is beyond scope of One Water LA.	Workshop #5

6.0 NEXT STEPS

The City recognizes that the prioritized policies and programs require feasibility assessments, and continued collaboration with numerous City Departments, Regional Agencies, Stakeholders, and elected officials within the City. The recommended next steps for the City and those involved in One Water LA are summarized below. Further details to the implementation strategy for the recommended policies and programs are described in Chapter 9 of the Summary Report (Volume 1).

6.1 Policy Assessment & Language Review

Policies and programs influence processes and procedures and thus are a useful and impactful tool when applied purposefully. It is critical to assess the policies and programs for conflicts, trade-offs and any sensitivities such as cost versus quality. A thorough feasibility assessment for each suggested policy and program is recommended, which includes but is not limited to: risk assessment, cost-benefit analysis, resource requirements, projected schedule, implementation timeline, ratepayer impacts, local business, and other economic impacts. Upon completion of a feasibility assessment an estimated implementation cost should be determined. Due to the current lack of available cost information, this Plan does not include any cost estimates related to the implementation of policies and programs.

Similarly the policy language could be reviewed to ensure the following:

- Language used is understandable and intent of Policy is easy to follow
- There are no gaps in content
- Concerns are identified early and changes are made
- Clearly identify policies vs. programs

An approach to assess the policy and program feasibility and language could be based on the priority and ease of implementation as shown on Figure 8.

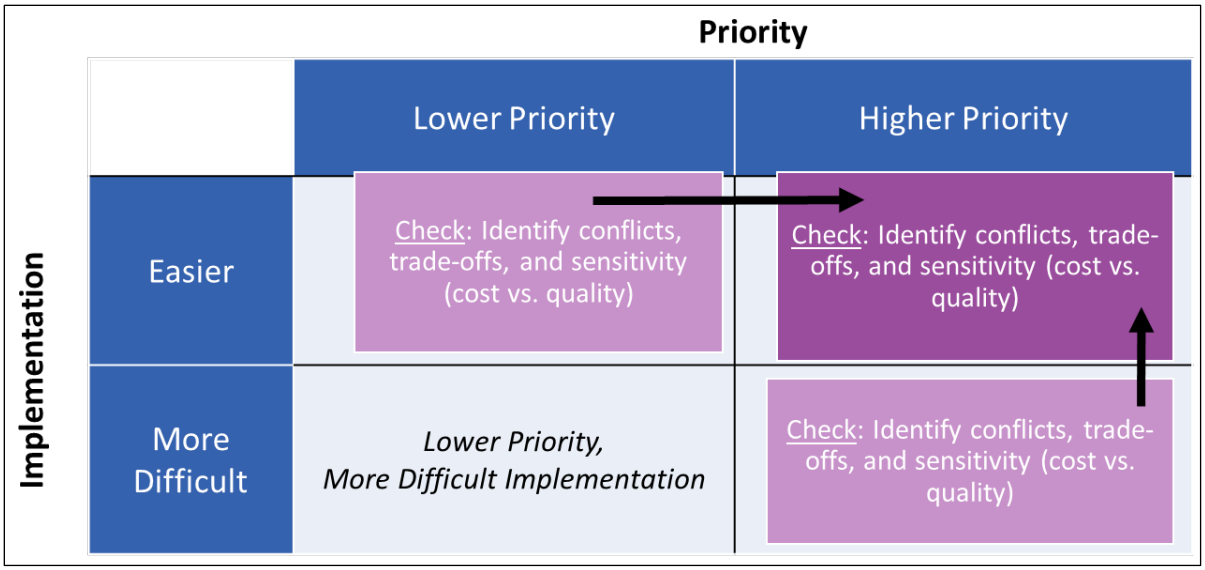

Figure 8 Conceptual Interpretation of Policy Classification Results

The One Water LA Steering Committee will further evaluate and develop implementation strategies for the policies and programs. One Water LA stakeholders will be given regular updates as well as be provided with opportunities for input on the strategies as they are being developed.

6.2 Overarching Policy and Program Considerations

A few ideas received during the policy and program solicitation phase were overarching recommendations that could be applied to most of the recommended policies. These include:

- During policy and program development, consider the internal and external financial impacts of implementation.
- Review of the 'highest and best use' of water where water is to be designated for the most reasonable use that results in the highest benefit.
- Incorporate engagement plans into project and program planning efforts to increase ownership and buy-in from the public and institutions.

6.3 Tracking Mechanism

A framework to track policies was developed during the Water IRP. The One Water LA Steering Committee can help develop a similar framework that is best suited to track the policies and programs in the One Water LA 2040 Plan. The tracking mechanism can include performance metrics, progress, timeline, cost and resource implications, and more. Information on progress can be used to guide future decisions to assign resources to the successful strategies and will help identify policies and programs that need to be revisited to improve results.

6.4 Community Engagement

Stakeholder engagement has been a critical component in the One Water LA planning effort and stakeholders were deeply involved in the development of the prioritized policies and programs list. Continued engagement with stakeholders during the feasibility assessment and possible implementation of many of these policies and programs will be important to their success. It is recommended that the City develop a process for engaging interested stakeholders in policies and programs – especially those that involve community participation.

6.5 Continued Collaboration

One Water LA has made significant progress in identifying roadblocks and developing solutions through collaboration with City Departments and Regional Agencies. It is recommended that this process of updates and input continue. Suggestions for next steps with City Departments, Regional Agencies, and the Water Cabinet are summarized below.

6.5.1 City Departments and Regional Agencies

In order to continue collaboration, the City plans to continue the Steering Committee process established during Phase 1 of One Water LA. Individual focus meetings or working groups focused on specific topics will likely also be needed. These meetings will also be the venue to track progress on the 47 Quick-fix policies and 39 prioritized policies and programs.

6.5.2 Water Cabinet

As described in section 0, the Mayor's Water Cabinet will select a few water-related long-term policies and programs to champion. The Water Cabinet is an important partner in the One Water LA effort and serves as a sounding board for review of many of One Water LA's efforts. Over the past 3 years, the One Water LA team has presented Quick-fix policies, and numerous One Water LA 2040 Plan progress updates The Water Cabinet's continued involvement, guidance, and support of inter-departmental collaboration will be a key success factor throughout the implementation phase.

APPENDIX A – REFERENCES

LA Basin Stormwater Conservation Study

Living Streets

GRASS (Greenways to Rivers Arterial Stormwater System)

Mobility Plan 2035

Stormwater Capture Master Plan

White Paper - Use of Financial Incentives for Stormwater Fees in Los Angeles County (Coalition of our Water Future)

APPENDIX B – IRP GO-POLICIES

Appendix B - IRP Go-Policies

No.	Category	IRP Go Policy	Status	Status Update
1	Recycled Water	Maximize use of recycled water for non-potable uses in the TITP, West side, and LAGWRP services areas	In-Progress	Recycled water pipeline is currently being expanded for non-potable uses in all areas of the city where recycled water is available and can be provided at a reasonable cost.
2	Recycled Water	Require dual plumbing in the vicinity of recycled water distribution systems in coordination with LARRMP	In-Progress	LADBS Green Building Code requires use of City-recycled water supply for water closets, urinals, floor drains, and process cooling and heating in buildings if recycled water is available within 200 feet of the property line.
3	Recycled Water	Coordinate design/construction of purple pipe with other major public works projects	In-Progress	This is occurring. LADWP is coordinating the construction of the Machado Lake Water Recycling Project and the design of the Downtown Water Recycling Project with the Department of Public Works, Bureau of Engineering.
4	Groundwater	Explore feasibility of implementing groundwater replenishment with advanced treated recycled water	In-Progress	The Final Environmental Impact Report for the GWR Project was certified by the Los Angeles Board of Water and Power Commissioners on December 6, 2016. A pilot study to optimize the recycled water purification process by evaluating various technologies and their combinations is underway. This project will replenish the SFB with up to 30,000 AFY of purified recycled water from the Donald C. Tillman Water Reclamation Plant (DCTWRP). The project is anticipated to be completed in 2024. Consideration is also being given to constructing ozone treatment at the DCTWRP in order to spread up to 10,000 AFY of recycled water by 2019 for groundwater replenishment in advance of the full-scale GWR Project.
5	Recycled Water	Continue to provide water from DCTWRP to Lake Balboa, Wildlife Lake, Japanese Garden and L.A. River to meet baseline needs for habitat	Complete	Per the Final Environmental Impact Report for the GWR Project, there will be no impacts to the current discharges from DCTWRP to Balboa Lake, Wildlife Lake, Japanese Garden, or the Los Angeles River due to the GWR project.
6	Water Conservation	Continue conservation efforts, including using smart irrigation devices	Complete	LADWP's rebate program provides rebates for "Weather-Based Irrigation Controllers", "Soil Moisture Sensor Systems", and "California Friendly Landscape Incentive Programs" for both Commercial and Residential customers.
7	Water Conservation	Continue conservation efforts, including no-flush urinal technology	Complete	LADWP's rebate program provides rebates for Zero and Ultra Low Water Urinals. In addition, a Citywide Water Efficiency Standards Ordinance became effective in June 2016.

Appendix B - IRP Go-Policies

No.	Category	IRP Go Policy	Status	Status Update
8	Water Conservation	Continue conservation efforts, including requiring individual water meters for new apartment buildings.	Complete	City Ordinance now requires dual metering in new developments.
9	Water Conservation	Continue conservation efforts, including increasing education on climate-appropriate & CA-friendly plants in coordination with LARRMP	In-Progress	LADWP's Los Angeles Outdoor Landscape Academy (LAOLA) provides training and hands-on workshops for customers and landscaping professionals to further their knowledge of California Friendly Landscaping and improving irrigation efficiencies. Landscape Design Information: LADWP offers customers access to a searchable database of climate appropriate, water efficient plants, including sample landscape design and irrigation templates.
10	Water Conservation	Consider developing City Directive to require the use of CA-friendly plants in City projects	Complete	All turf conversions at existing City owned facilities (e.g. libraries, fire stations, etc.) are receiving drought tolerant and California friendly landscaping. New projects generally get drought tolerant landscaping, and the Bureau of Engineering could include this standard in the department's specifications. This policy has been updated and included as a consideration in One Water LA policy 32.
11	Stormwater	Review SUSMP to require where feasible on-site infiltration and/or treat/reuse, rather than treat and discharge, including in-lieu fees	Complete	SUSMP was revised to promote on-site infiltration. LASAN has worked closely with LADBS to ensure onsite infiltration can be maximized. For more information refer to LADBS Information Bulletin (Reference No. : LABC Sec 7013.9 & 7013.10, Document No.: P/BC 2017-118).
12(a)	Stormwater	Modify codes to encourage feasible BMPs for maximizing on-site capture and retention and/or infiltration of stormwater, including porous pavement	Complete	LASAN has worked closely with LADBS to ensure onsite infiltration can be maximized. Please refer to LADBS Information Bulletin (Reference No. : LABC Sec 7013.9 & 7013.10, Document No.: P/BC 2017-118) This policy has been incorporated into One Water LA Policies 6 and 7.
12(b)	Stormwater	Evaluate requiring porous pavements in all new public facilities in coordination with LARRMP and large developments	Complete	The Green Streets Committee evaluates & encourages alternative street surfacing materials. Permeable paving must pass vehicle rating and other approvals from City agencies including BOE and the Fire Department and BOE. Permeable pavement has been incorporated into One Water LA policies 6 and 7 that include evaluation of permeable pavement alongside other bmps to increase flexibility in choosing the most appropriate and effective BMPs for any given site.

Appendix B - IRP Go-Policies

No.	Category	IRP Go Policy	Status	Status Update
13	Stormwater	Evaluate ordinance changes to reduce the area on private properties that can be paved with non- permeable pavement	Complete	Permeable materials is allowed and encouraged. Front yard non-permeable area is limited to 50 percent. Additional opportunities are being evaluated through the re:code LA effort.
14	Stormwater	Evaluate and implement integration of porous pavements into sidewalks and parkways	Complete	Alternative street surfacing materials currently allowed and encouraged. A Public right-of-way ordinance and Green Infrastructure Handbook is in development. One Water LA Policy 6 encourages implementation of an expanded BMP list.
15	Stormwater	Prepare a concept report and determine feasibility of powerline easement demonstration project	Complete	The Westside Park Rainwater Irrigation Project was completed in 2011.
16	Stormwater	Work with LAUSD to determine feasibility of projects for new and retrofitted schools, & gov./city-owned facilities with stormwater BMPs	In-Progress	LAUSD has implemented several projects that capture on-site stormwater and they are working with One Water LA to determine potential for a pilot project that captures off-site stormwater runoff onto a school site.
17	Stormwater	Identify sites that can provide onsite percolation of wet weather runoff in surplus properties, vacant lots, open space, abandoned alleys in & along LA River in East Valley.	In-Progress	LASAN conducted extensive parcel analysis during the EWMP development phase, for LA River and Ballona Creek watersheds. It also has an inventory of City owned parcels. Green Alleys Master Plan explores opportunities for alleys. One Water LA Policy 8 includes strategies for capturing stormwater on City-owned properties and vacant lots.
18	Stormwater	Maximize unpaved open space in City-owned properties and parking medians through BMPs and removing unnecessary pavements.	In-Progress	Any construction or reconstruction activities on City-owned properties that trigger LID requirements require the installation of BMPs. WPD does not specifically focus on parking medians, but BMPs in parking medians can help meet LID requirements. Many Proposition O and EWMP projects are located in parks to maximize unpaved open space and stormwater Capture.
19	Stormwater	Include all feasible BMPs in the construction or reconstruction of highway medians	In-Progress	LASAN is in the process of developing Public LID Handbook for projects located on public ROWs. LASAN is working with BOE Sidewalk Repair Division, Street Repair Division, and Mayor's Office Great Street and Vision Zero teams to implement pilot-level projects in existing or near future sidewalk and street repair sites. Stormwater NPDES requires street projects > 10,000 sq. ft. to incorporate BMPs

Appendix B - IRP Go-Policies

No.	Category	IRP Go Policy	Status	Status Update
20	Stormwater	Coordinate with Million Trees LA to identifying potential locations of tree plantings that would provide stormwater benefit.	In-Progress	The Million Trees Program has been incorporated into City Plants Program. One Water LA policy 14 updates tree selection suggestions to include trees that are drought-tolerant, heat-resistant and are appropriate for use in stormwater capture bmps. The revised LID Manual also provides small scale residential projects with the option of "Rain Tanks with Tree Planting". This option includes the addition of four (4)- 55 gallon rain barrels and one (1)-15 gallon shade tree. This prescriptive measure is limited to projects whose scope results in new impervious area between 500 to 999SF.
21	Stormwater	Consider diversion of dry weather runoff from Ballona Creek to constructed wetlands, wastewater system, or urban runoff plant for treatment and/or beneficial use.	In-Progress	Opportunities for multiple dry-weather diversion projects are being explored in the One Water LA 2040 Plan.
22	Stormwater	Consider diversion of dry weather runoff from inland creeks and storm drains tributary to wastewater system or constructed wetlands or treatment/retention/infiltration basins	In-Progress	Opportunities for dry-weather diversion projects are being explored in the One Water LA 2040 Plan.
23	General Plan	Consider incorporating IRP policy decisions in the General Plan, Community Plan, and Specific Plan updates or revisions, and in LARRMP and Opportunity Areas	In-Progress	One Water LA Team is working with DCP on General Plan and Community Plan updates to incorporate One Water LA water policy recommendations.
24	Stormwater	Include stormwater management BMPs in all new parks.	In-Progress	LASAN is working with RAP to implement EWMP regional projects located on City owned park lands, Additionally, any construction or renovation activities that trigger LID requirements require the installation of BMPs. Additionally, One Water LA policy 12 includes maximizing opportunities for stormwater capture in parks through Measure A funding.
25	Stormwater	Evaluate feasibility of all City properties identified as surplus for potential development of multiple-benefit projects to improve stormwater management, water quality and groundwater recharge	In-Progress	One Water LA Policy 8 expands strategies for capturing water on City-owned properties.

APPENDIX C – POLICY ALIGNMENT WITH ONE WATER LA OBJECTIVES & GUIDING PRINCIPLES

Appendix C - Policy Alignment with One Water LA Objectives Guiding Principles

Ref. No.	Policy & Program Concept Language	Source	Primary Objective No.	Secondary Objective & Guiding Principle	No. of Objectives Guiding Principles, & Sources
Water Conservation & Graywater					
1	Update efficiency requirements in City's retrofit on resale program.	LASAN	4	3	3
2	Research best method and establish tracking system for graywater installations throughout the city. Consider potential impacts of graywater systems on water supply needs.	Decentralized STG, Steering Committee	5	4, 4d	5
3	Develop graywater user education information and signage for areas irrigated with graywater.	Decentralized STG	7	4, 7a	4
Stormwater and Urban Runoff - Preventive Stormwater Quality Improvement Measures					
4	Develop best method to encourage drainage water from swimming pools to be discharged into the sewer system rather than a street or storm drain.	LASAN	4	3	3
5	Develop robust stormwater pollution source control education measures that increase awareness and public participation.	Project Workshop, Workshop #5	7	7a, 3, 4	6
Promote Integrated Planning & Design					
6	Simplify the process and remove barriers to installing parkway swales and other distributed green infrastructure BMPs in the public right-of-way.	Stormwater STG, Project Workshop, LASAN, Steering	3	3b,3d,4,6,6c	9
7	Simplify the process and remove barriers to installing distributed green infrastructure BMPs on private properties in the City.	Various (at least 2), LASAN, Workshop 5, Steering	3	3b,3d,4,4a	9
8	Maximize use of City owned property for stormwater capture retrofits.	LASAN, Steering Committee, Stakeholder Workshop	4	3,4c,3d	6
9	Develop templates for standardized maintenance agreements and provide training to ensure maintenance of collaborative stormwater projects in the City.	Steering Committee, LA Basin Study, Project Workshop	1	4,3,1a,1b,1c	9
10	Maximize water supply opportunities in water quality compliance and improvement projects and programs.	LASAN, LA Basin Study	4	2, 2d, 3,3b,4a	8
11	Create a city-wide database to identify collaborative opportunities for water-related multi-benefit projects.	Funding STG, Steering, SCMP, GRASS, LASAN	1	1a, 1b, 1e, 2, 2b, 3, 3c, 4	13

Appendix C - Policy Alignment with One Water LA Objectives Guiding Principles

Ref. No.	Policy & Program Concept Language	Source	Primary Objective No.	Secondary Objective & Guiding Principle	No. of Objectives Guiding Principles, & Sources
12	Maximize opportunities to incorporate integrated water management strategies, including green infrastructure, into on-going and emerging opportunities.	Project Workshop, Advisory Group, Stormwater Workshop, Steering Committee	1	1b, 2, 2b, 3, 6, 6e	9
13	Investigate the development of a stormwater capture retrofit ordinance that would require installing stormwater capture projects in homes upon resale.	SCMP	4	3, 3b, 3d, 4a	6
14	Update the Street Tree Selection Guide to better address climate change and water concerns.	LASAN, STG-Stormwater	6	3,4,6c	6
Improve Collaboration & Streamline Implementation					
15	Identify a sufficient water supply for establishing and maintaining green infrastructure.	Steering Committee (LASAN-WPD)	4	2, 2g	4
16	Create a vehicle that allows for shared operation and maintenance duties between multiple public agencies or public/private entities for stormwater BMPs.	Stormwater STG (Top)	1	3,4,1c,1b	6
17	Create a process to expedite approval of public projects that help meet the Sustainable City pLAn, Watershed Management Programs, and One Water LA's objectives.	Steering Committee (LADOT, RAP), Stormwater STG, SCMP, Partnerships STG	1	2, 2d, 3, 3b, 4a	11
18	Streamline the process and coordinate the timing of approvals for builders implementing LID and Green Building requirements.	Workshop, Small business community, developers	1	3,4	5
19	Identify the process or entity that will coordinate and manage all street and alley improvement efforts in the City.	Living Streets; Stormwater STG, Project Workshop, Steering Committee	1	1a, 1b, 2, 2b, 3, 3b, 4	12
20	Create a vehicle for continued department and regional agency collaboration beyond One Water LA 2040 Plan Development.	Steering Committee, Living Streets	1	2,3,4,5,6,7	9
21	Develop a protocol for when and how private property owners will maintain the City's right of-way stormwater improvements.	Stormwater Facilities Workshop	1	1c, 3,3d, 4	6

Appendix C - Policy Alignment with One Water LA Objectives Guiding Principles

Ref. No.	Policy & Program Concept Language	Source	Primary Objective No.	Secondary Objective & Guiding Principle	No. of Objectives Guiding Principles, & Sources
Stormwater and Urban Runoff - Incentive Programs					
22	Evaluate and implement the most effective methods to incentivize stormwater capture retrofits.	Steering Committee, Stakeholder Workshop (world café), Funding STG, Coalition for our Water Future, SCMP, Stormwater STG (Top), Project Workshop, Workshop #5	3	1,1c,3b,4,4a, 7,7b	16
23	Develop incentive programs to encourage reducing paved areas and increasing permeable pavements.	Stormwater STG (Cons. # 5 Top Recc)	3	4, 3d	4
24	Create a "Percent for Green" fund that supports constructing Green Street facilities and dedicate a minimum percent for green infrastructure.	Stormwater STG (Top)	3	1,1c,3d,4	6
25	Evaluate the feasibility of a program that allows properties to generate Stormwater Retention Credits (SRCs) for voluntary implementation of green infrastructure that reduces stormwater runoff.	Stormwater STG (Top)	3	4	3
26	Develop property owner recognition programs to promote and acknowledge stormwater capture retrofits and other sustainable practices.	Stormwater STG (Top), Steering Committee (LA River Works)	7	1, 1c, 2, 3, 4, 7a	9
Funding & Partnerships					
27	Create a program to evaluate and facilitate public-private partnerships for water projects.	Funding STG (Top), Partnerships STG, Advisory Group, SCMP, Workshop #5	1	1c, 2, 2h, 7	10
28	Create a program to facilitate partnerships between City departments, regional agencies, and Non-Profit Organizations for water-related projects and programs.	Funding STG (Top), Stormwater STG, SCMP, Workshop #5	1	1a, 1b, 1c, 2, 2b, 7	11
29	Develop tools and best methods to facilitate agency cost-sharing for multi-benefit projects and programs.	Living Streets, Partnerships STG, Steering Committee World Café, Funding STG (Top), Advisory Group SCMP. Workshop #5	2	1a, 2b, 2d, 2c, 3, 4	14
30	Explore the potential for establishing an Enhanced Infrastructure Financing District or other appropriate funding mechanism to fund capital projects and sustainable operations and maintenance.	Steering Committee (LA Riverworks)	2	3, 3c	4
31	Expand partnerships between the City and academia to advance water-related research and innovation.	Project Ideas, Workshop #5	1	1b, 2e,7a, 7b	7

Appendix C - Policy Alignment with One Water LA Objectives Guiding Principles

Ref. No.	Policy & Program Concept Language	Source	Primary Objective No.	Secondary Objective & Guiding Principle	No. of Objectives Guiding Principles, & Sources
Sustainability & Climate Change Resiliency					
32	Integrate climate adaptation, mitigation, and resilience principles into the planning, design, construction, and operations of water-related projects.	Steering Committee (HSR, LACFCD, LADOT,LADWP), Workshop #5	6	3,4	5
33	Require Green Street implementation to use sustainable elements and native or climate-appropriate flora compatible with local biomes.	LASAN, Stakeholder Workshop, Project Workshop.	6	3, 3d, 4	5
34	Explore the feasibility of requiring the Sustainable Infrastructure Certification program Envision for large projects and create a program for staff certification.	Steering Committee (BOE)	1	1a, 2, 2b, 3, 4	7
Training and Education (revised heading)					
35	Expand education and engagement programs on potable reuse.	Stakeholder Workshop (world café), Project Workshop, Workshop #5.	7	7c	5
36	Expand "how to" training and education programs to increase understanding of green infrastructure systems, increase implementation participation, and improve performance.	Workshop #5.	7	1, 6	4
37	Develop BMP training and certification programs for construction industry and landscape professionals.	Workshop #5.	1	1b, 1e, 2, 3, 4	7
Recycled Water & On-Site Wastewater Treatment Facilities (private OSTF)					
38	Develop guidelines for Onsite Treatment Facilities (OSTFs) that protect public health and outline wastewater and recycled water systems' operation.	Decentralized STG, LASAN, Project Workshop	5	7	4
39	Develop a fee structure and payment guidelines for on-site treatment systems that reflect collection and treatment system impacts and costs.	Decentralized STG, LASAN	5	2, 2c	5

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CITY OF LOS ANGELES

TECHNICAL MEMORANDUM NO. 4.1
FUNDING STRATEGIES

FINAL
December 2017

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CITY OF LOS ANGELES

TECHNICAL MEMORANDUM
NO. 4.1
FUNDING STRATEGIES

TABLE OF CONTENTS

Page No.

LIST OF APPENDICES

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATIONS

Abbreviation	Description
AOC	Administrative Oversight Committee
AWPF	advanced water purification facility
AWRP	advanced water reclamation plants
BMP	Best Management Practices
City	City of Los Angeles
CWSRF	Clean Water State Revolving Fund
DPR	direct potable reuse
DWSRF	Drinking Water State Revolving Fund
EPA	Environmental Protection Agency
FAR	floor area ratio
HSR	High Speed Rail
HVAC	heating, ventilating and air conditioning
IPR	indirect potable reuse
IRP	Integrated Resources Plan
JPA	Joint Powers Authority
K	thousand
LACFCD	Los Angeles County Flood Control District
LACSD	Los Angeles County Sanitation District
LADWP	Los Angeles Department of Water and Power
LASAN	Los Angeles Sanitation
LAUSD	Los Angeles Unified School District
M	million
METRO	Metropolitan Transportation Authority
Metropolitan	Metropolitan Water District of Southern California
NPR	non-potable reuse
O&M	operations and maintenance
P3s	Public-Private-Partnerships
PACE	Property Assessed Clean Energy
sq ft	square feet
STG	Special Topics Group
TM	Technical Memorandum
WIIN	Water Infrastructure Improvements for the Nation Act
WRP	water reclamation plant

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FUNDING STRATEGIES

1.0 INTRODUCTION

1.1 Background of One Water LA

The City of Los Angeles (City) recently embarked on the One Water LA 2040 Plan. This plan will provide a strategic vision and a collaborative approach for integrated water management. In 2006, the City completed and adopted its first Water Integrated Resources Plan (IRP). This plan was the start of a paradigm shift for the City and resulted in significant achievements. Since then, the water landscape in the City has changed with increased demands, new regulations, and threats of climate change.

In response to these changes and to help achieve water sustainability, the City initiated the One Water LA 2040 Plan. This plan builds upon the success of the Water IRP, which had a planning horizon to year 2020. The One Water LA 2040 Plan takes a holistic and collaborative approach, to consider all water resources from surface water, groundwater, potable water, wastewater, recycled water, dry-weather runoff, and stormwater as "One Water." The plan identifies multi-departmental and multi-agency integration opportunities to manage water in a more efficient, cost effective, and sustainable manner.

The One Water LA 2040 Plan represents the City's continued and improved commitment to proactively manage all its water resources and implement innovative solutions, driven by the Sustainable City pLAn. The One Water LA 2040 Plan will help guide strategic decisions for integrated water projects, programs, and policies within the City.

1.2 Purpose of Task 4

A goal of the Plan is to present high-level funding options and strategies for these projects and programs such that surface water, groundwater, potable water, wastewater, recycled water, and stormwater goals can be considered in an integrated fashion. The purpose of Task 4 is to discuss the process by which the funding opportunities are identified and costs are appropriately shared between benefitting parties. This funding scheme will be developed to support the overarching One Water Objectives with an understanding of the funding requirements and capabilities of the participating departments and regional entities.

1.3 Objectives of Technical Memorandum 4.1

The primary objective of Technical Memorandum (TM) 4.1 is to provide a framework on how the City and other partners can consider funding projects and programs, as well as the associated potential advantages or challenges. This TM presents available funding opportunities, as well as potential restrictions or limitations for each. While this TM is not intended to delineate a comprehensive list of funding alternatives, it does provide direction of potential timing, sources, and partners. This TM will lay the groundwork of how cost-sharing allocations might fit in with potential funding strategies and presents the following:

1. Four categories of funding alternatives with detailed descriptions of the advantages and disadvantages.
2. Outline of each participating agency's ability to raise or access funds via one or more of the four potential funding alternatives.
3. Example grants, loans, tax credits, and rate revenue sources available for One Water LA projects.
4. An approach for funding projects in an integrated manner, including cost-sharing.
5. Documentation of funding strategies recommended during Special Topics Group (STG) meetings. STG meetings were held for specific topics; four STG meetings were held to discuss Funding Strategies.

TM 4.2 – Water Funding Tools provides an example of an approach to enhance City coordination related to seeking and managing grant funding opportunities thus potentially increasing grant awards. Other stormwater funding options are also discussed in the One Water LA Stormwater and Urban Runoff Facilities Plan.

2.0 FUNDING APPROACHES

Projects and programs that are in the One Water LA 2040 Plan could have access to diverse funding sources. For some of these funding sources, there are limitations or restrictions that could impact the availability of funding. Consequently, understanding which grants, loans, tax measures, and rate revenue sources are available to each of the One Water LA participating City departments and regional entities provides the first step towards optimizing the use of the sources and selecting the appropriate funding approach.

Those departments that are participating in the comprehensive One Water LA program planning process must also consider the investment of staff time required. Securing some funds requires a more involved application and role in the disbursement of funds, compared to others. Overall, participating agencies must consider the return on the investment that each funding source might provide. The list of funding sources available to City departments and regional agencies provides a foundation to begin the selection and approach to secure the appropriate source. The funding sources include, but are not limited to the following:

- **Existing Utility Revenue Structures -** Service charges collected from City customers in order to recover the cost of providing water, wastewater treatment, and stormwater management and review services.
- **Voter-Approved Tax Measure -** Statewide, regional, or city imposed tax measures to fund government expenditures for specific purpose (ex. transportation, water infrastructure, street improvements, etc.).
- **Grants and Loan Programs -** Federal, State, and local grant and loan programs. Each should be reviewed for criteria and objectives for funding.
- **Partnerships -** In addition to single sources of funding, joint funding opportunities from both within the City and other entities will be considered. Other entities include, but are not limited to the following:
  - Regional partners such as Los Angeles County Flood Control District (LACFCD), Metropolitan Water District of Southern California (Metropolitan), Los Angeles County Sanitation District (LACSD), Los Angeles Unified School District (LAUSD), Metropolitan Transportation Authority (METRO), High Speed Rail (HSR), California Water Foundation, and the Water Research Foundation.
  - Non-profit Organizations such as Tree People, Heal the Bay, Trust for Public Land, Surfrider Foundation, the Council for Watershed Health and more.
  - Private Owners and Volunteers
- **Additional Alternatives -** Other funding options are discussed in Section 3.5 of this TM.

Examples of each of the options summarized above are illustrated on Figure 1.

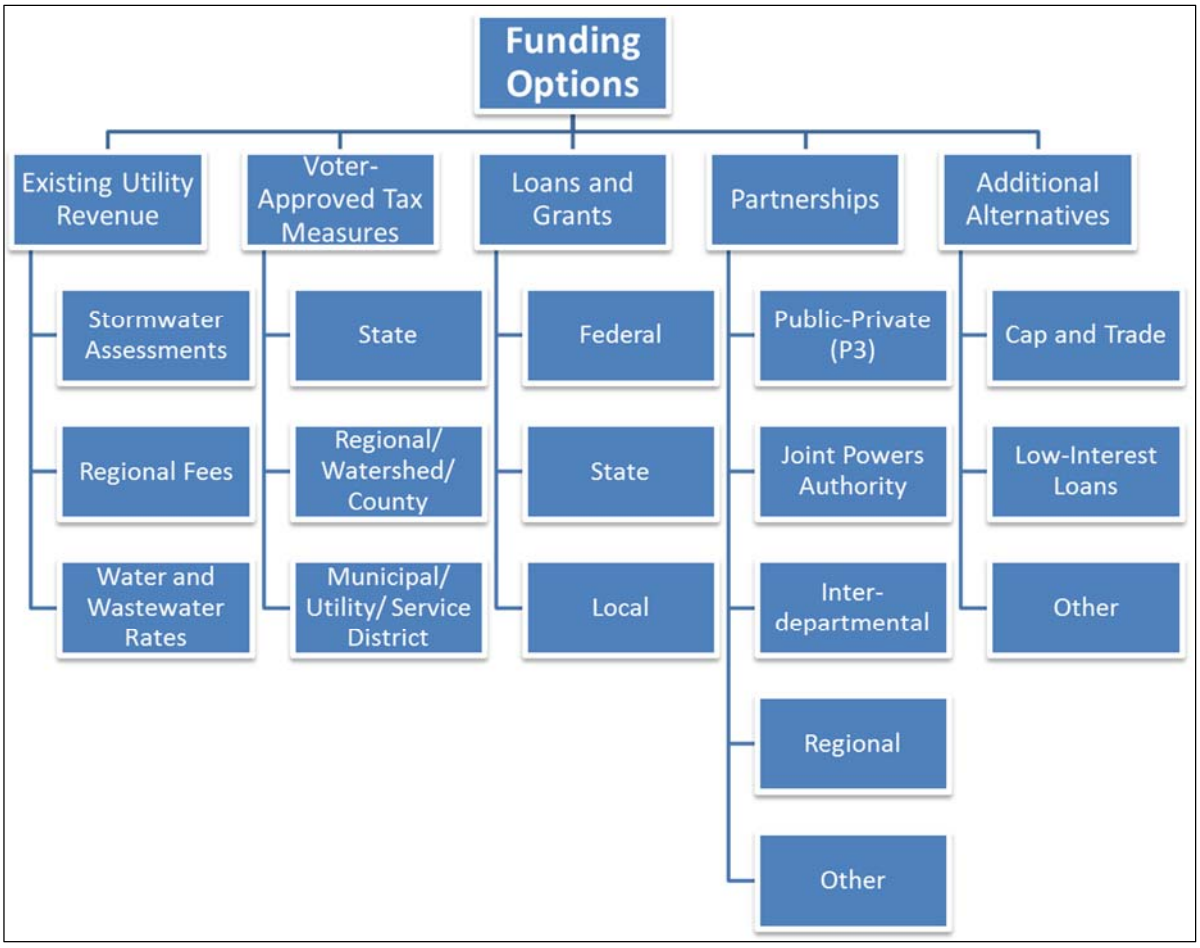

Figure 1 Funding Options for the City

These local and regional sources are discussed in more detail in Section 3.0 of this TM.

2.1 Cost-Sharing Process

Central to the funding strategy is a discussion of how programs will be funded by participating agencies. The contributions by each participating party will be determined on a project or program specific basis. These contributions will be based on a number of factors, including benefits and ability to access funding. For secondary or general benefits, such as open space, which are likely to occur without the ability to allocate costs to, or collect funds from beneficiaries, the City's General Fund and other discretional funding sources may be pursued. The cost-sharing between the agencies requires a process that will involve a number of factors, including:

- Benefits to the respective agency;
- Other secondary partner agencies that might also benefit from the project, either directly or indirectly; and
- Ability to participate in and fund their respective share of the program.

During the series of STG meetings, a concern was raised that the cost responsibility could be shifted to agencies that have the ability to fund a given project rather than those agencies that most directly benefit from the project. Due to the integrated nature and regional benefit of the projects identified through One Water LA, it is anticipated that there will be many secondary and indirect beneficiaries of this program. However, the STG participants acknowledged that direct beneficiaries of a specific project or program should fund a proportional share of the costs.

In the initial planning stages of a project, the participating agencies can use a consistent means to determine the preliminary funding strategy. However, as all projects are unique, there is no set approach to determine the optimal allocation of the funding responsibilities; the process will involve a discussion of each of the above factors.

As such, the following strategy was developed and recommended by the STG in order to implement a repeatable and transparent plan for each program or, if appropriate, for a specific project. The defined process consists of four steps for each program (see Figure 2).

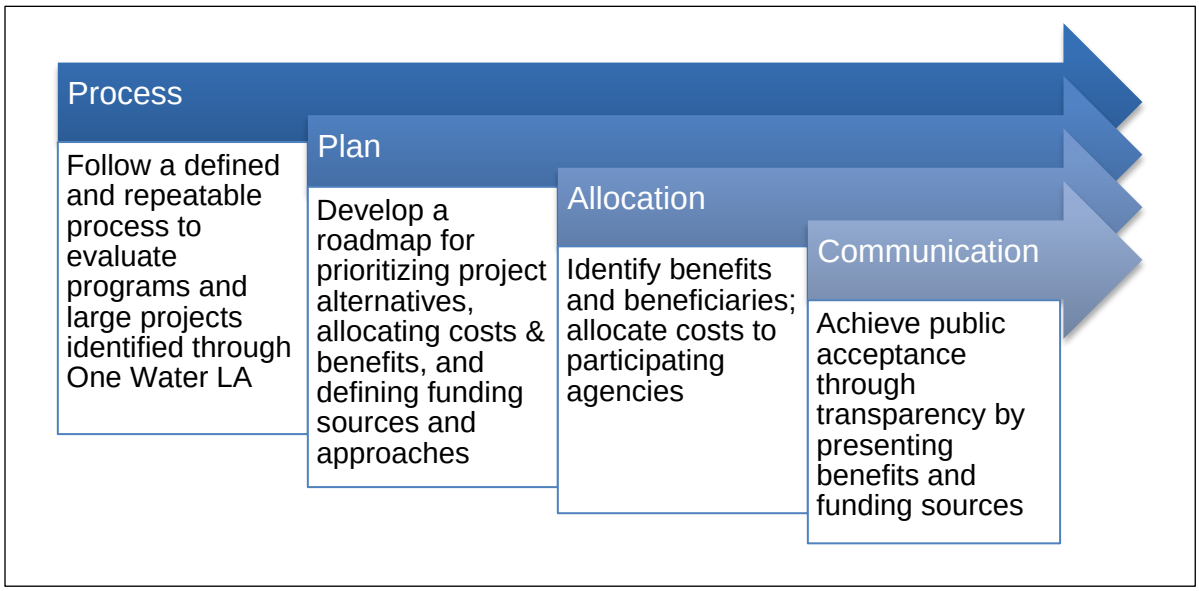

Figure 2 Cost-sharing Strategy

The STG acknowledged that the allocation of costs would be performed at the time that a program or project is brought forward for consideration. Fundamental to this cost allocation was having a consideration for both qualitative and quantitative factors. For example, a common quantitative factor is a total cost of production per acre-feet of water produced. An example of a qualitative factor that can be considered is the creation of additional recreational space. The City and its partners, including many noteworthy nonprofit organizations, have made great strides to quantify or monetize the benefit of these otherwise qualitative factors, such as in the Bureau of Reclamation and LA County Department of Public Works Los Angeles Basin Stormwater Conservation Study. This work provides a strong foundation to conduct any future cost-benefit analysis but has been primarily focused on stormwater projects.

A high-level description of how cost allocations and cost benefits could be applied to a multi-benefit and multi-party projects was considered, which is recommended as a future research topic in One Water LA's Policy and Program Technical Memorandum (TM 13.1). The following components were identified:

- **Multi-benefit Project -** A multi-departmental and/or multi-agency integration opportunity (project or program) that has been identified by multiple parties and has multiple benefits.
- **Primary and Secondary Parties -** The primary party would be the lead of the project. The secondary party could be more than one agency or department.
- **Cost -** Can be borne by primary and secondary parties, and that separate parties may be responsible for individual cost components (capital, operating, maintenance).
- **Benefits -** Multiple benefits split between quantitative and qualitative measures. These benefits are global benefits and not those specifically attributable to the primary or secondary parties. It is important to note that many qualitative benefits may become quantitative benefits as more data becomes available. Many federal and state agencies have developed studies that can identify a quantitative value to various types of benefits (e.g. health and safety, air quality, community development, etc.).

The quantitative and qualitative effects of municipal projects can be categorized as economic, financial, environmental, or social. These effects are briefly summarized below:

1. **Economic effects -** include the benefits associated with different types of goods and services supported by the management concepts, the costs of different concepts, the impacts of different concepts on the regional economy through changes in the amount and type of spending, and the cost effectiveness of different concepts.
2. **Financial effects -** include the impacts on water utility revenues and expenditures, impacts on utility bills, fiscal impacts on state and local governments, and the ability of water users to pay for different concepts.
3. **Environmental effects -** reflect the type and quality of environmental and natural resources that would be potentially influenced by a concept. Environmental effects would include items such as water quality, energy consumption, impacts on habitat, and ecosystem function.
4. **Social effects -** reflect the social characteristics of a community or region. Examples of social effects include education, environmental justice, and quality of life.

An example high-level cost-benefit process tool is provided on Figure 3. This tool was presented in the STG workshop as a framework for initially identifying benefitting agencies, which could then serve as the foundation for a more detailed and rigorous cost allocation process.

Project: _____

Description: _____

TYPE	ADMINISTERING AGENCY	BENEFITS								COSTS						ALLOCATION	
		Quantitative				Qualitative				Primary Party			Secondary Parties				
		Direct Spending ($)	Induced Spending ($)	Cost Savings (Avoidance)	Rate Impacts	Health/ Safety	Air/ Water Quality	Recreation/ Open Space	Other	Capital	Operating	Maintenance	Capital	Operating	Maintenance	Costs	Benefits
CITY DEPARTMENTS	LA Sanitation (LASAN)																
	Los Angeles Department of Water and Power (LADWP)																
	Bureau of Engineering (BOE)																
	Los Angeles Department of Building and Safety (DBS)																
	Bureau of Street Services (BSS)																
	Department of City Planning (DCP)																
	Los Angeles Department of Transportation (LADOT)																
	Recreation and Parks (RAP)																
	General Services Division (GSD)																
	Port of Los Angeles (POLA)																
	Los Angeles World Airports (LAWA)																
	Los Angeles Zoo (LA ZOO)																
	Department of Neighborhood Empowerment (DONE)																
REGIONAL AGENCIES	U.S Army Corps of Engineers																
	Caltrans																
	High Speed Rail																
	LA County Department of Public Works																
	LA County Flood Control District																
	LA County Sanitation Districts																
	Los Angeles Unified School District																
	Metropolitan Transportation Authority																
	Metropolitan Water District of Southern California																
	Southern California Association of Governments																
	Contracting Agencies																

Disclaimer: This Example Cost-Benefit Flow Process Tool is based upon the high-level Cost-Benefit Flow Process discussed during the Special Topic Group meetings. This tool is provided as an example template only. This tool or other tools could be further developed to support the funding process for multi-benefit projects.

Figure 3 - Example Cost-Benefit Process Tool
One Water LA 2040 Plan
TM 4.1 - Funding Strategies

2.2 Project Types

The various available funding categories discussed in the following sections specify different types of projects as recipients of funds. As detailed in this plan such as the One Water LA Case Studies, the project group alternatives include a variety of project types. Below, One Water LA projects have been grouped into four project types.

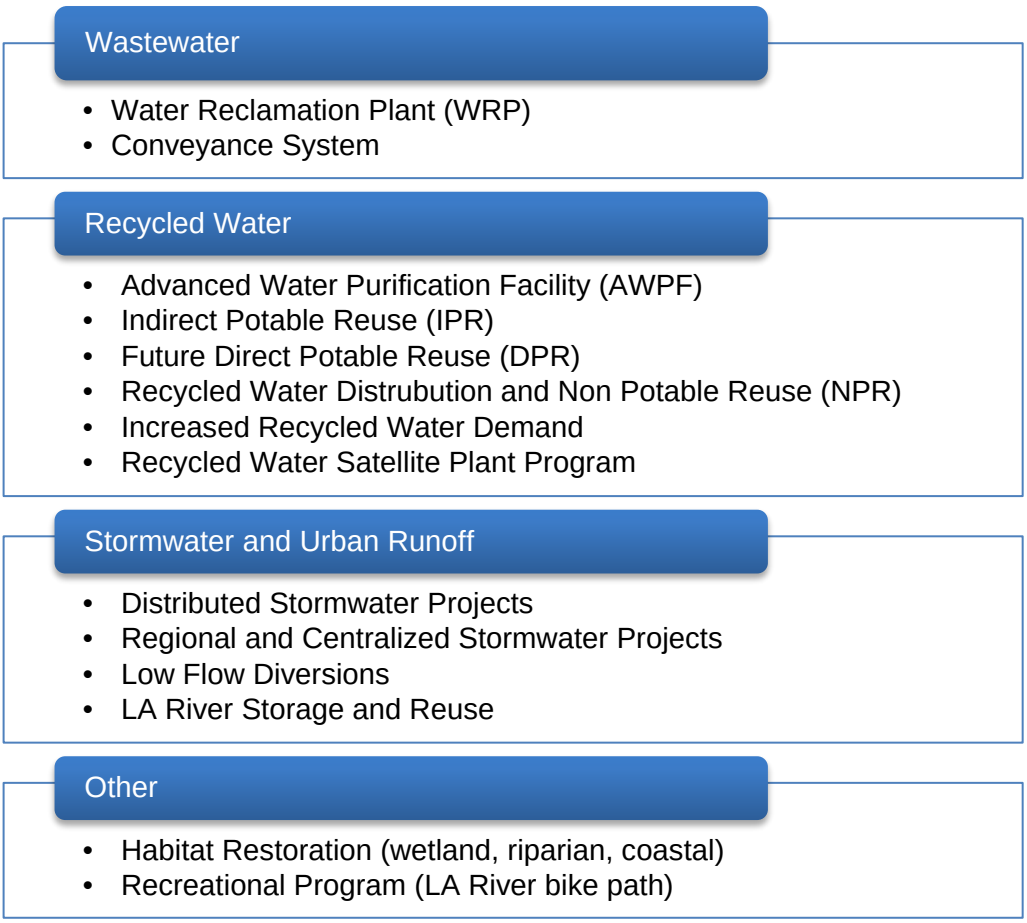

Figure 4 Project Types

Certain types of projects fall under the specific purviews of the City Departments.

The responsible or participating agency and funding is tied to benefit and access to funding. Examples of responsible agencies by project type specific to One Water LA concepts are provided as follows:

- Recycled water projects such as advanced water reclamation plants (AWRP) will likely be the responsibility of Los Angeles Sanitation (LASAN).
- Recycled water projects such as indirect potable reuse (IPR) or future direct potable reuse (DPR) will likely be the responsibility of Los Angeles Department of Water and Power (LADWP) and LASAN.

- Recycled Water Distribution projects such as non-potable reuse (NPR) will likely be the responsibility of the water purveyors, whether LADWP or another local water agency.
- Stormwater projects will likely be the responsibility of LASAN, LADWP, and LACFCD.
- Other projects responsibility will be determined on a project by project basis.

The allocation of project costs among the agencies involves a number of other factors and will always be determined on a case by case basis. Clarification will be required to determine the funding agency responsibility for capital and operations and maintenance (O&M) costs; in many cases two different agencies have the aforementioned roles.

3.0 POTENTIAL FUNDING OPTIONS

The four primary categories of potential funding sources are the following:

1. Existing Utility Revenue Structures
2. New Voter-Approved Tax Measures
3. Federal/State Grants and Loan Programs
4. Other

Each of the categories is not mutually exclusive. Rather, for each program or project, participating agencies will review available resources and opportunities and choose one or more funding sources based on costs, availability of funds, and administrative requirements to secure those funds.

Depending on their role in the One Water LA projects, certain City departments and regional agencies may be able to raise revenue through one or more of these funding categories. For example, water, wastewater, and recycled water projects can be funded through utility rates. Other projects might be more appropriately funded through tax measures at the regional, municipal, or state level. As One Water LA projects are anticipated to provide habitat restoration, water conservation, water quality, and other environmental benefits, numerous federal and state loan and grant programs may become available as funding sources. Additionally, when grants and low cost loans are not available, traditional municipal bond financing may be an appropriate capital funding source. Participating agencies' restrictions and abilities to issue such debt will be considered. Lastly, there are state and federal tax credit programs available to agencies that implement projects that achieve results that comply with certain tax credit program goals. This section explores some of the available and typical grants, loans, tax credits, and rate revenue sources and assesses their advantages and disadvantages in light of the size and scope of One Water LA.

A summary table of some potential sources and strategies describing advantages and disadvantages of each is provided as Appendix B.

3.1 Existing Utility Revenue

Water and wastewater rates and charges recover costs for daily operations and capital infrastructure; however, certain limitations and restrictions apply. In 2006, the California Supreme Court ruled that the provisions of Proposition 218 apply to municipal rates (water, sewer, recycled water, and solid waste). This means that fees and charges are limited to the cost of providing the service and may not be imposed for general governmental services available to the public. In order for a project to be funded from rate revenues, a nexus must be created to show those paying for the service directly benefit.

While these revenue structures provide enhanced equity (those receiving the benefit pay for the service), the ability to fund large capital projects (through rates) is more limited. Often concerns of affordability and, as rate revenues are largely generated from usage, revenue volatility are expressed as potential funding shortcomings.

3.1.1 Water Rates

Water rates are service charges collected from water customers in order to recover the cost of providing water service. LADWPs rate structure recovers cost entirely through volumetric charges based entirely on metered demand. Through the use of water budgets LADWPs specific rate structure lends itself to greater revenue predictability than typical volumetric rate structures. LADWP applies direct funding from rates in conjunction with debt issuances to fund capital projects and programs.

There is a degree of risk that rate revenues could fluctuate due to unexpected demand shortfalls, however, LADWP has taken steps to manage this risk by incorporating a decoupling mechanism in their water rates. This gives LADWP the ability to recover lost revenue in the event of decreased consumption (e.g. due to conservation). Additionally LADWPs rate structure contains mechanisms to adjust rates to reflect increased costs from outside water suppliers such as Metropolitan Water District.

3.1.2 Wastewater Rates

Like water rates, wastewater rates are service charges collected to recover the costs of providing, in this case, sanitary sewer service. Wastewater rates may include a fixed component and a variable component based on metered sewer flow or water demand (as a proxy).

Wastewater rates can also be tailored to adequately recover the costs associated with providing wastewater service. As certain types of wastewater rate structures are usually constructed with one degree of separation from metered water consumption, wastewater

rates are typically less vulnerable to unexpected dips in demand and, consequently, so are revenues collected through wastewater rates.

Wastewater rates are also required to provide a clear nexus between the charges and the value of the service being provided to each customer. Similar to water rates, LASAN and other wastewater agencies are subject to reduced rate revenues due to water conservation. LASAN and LACSD will be responsible for raising wastewater rate revenue as required to fund projects related to wastewater. However, other agencies will participate in these costs as the projects provide new water supplies or other identifiable benefits.

3.1.3 Recycled Water Rates

Recycled water rates are service charges collected to recover the costs of providing recycled water service. Similar to potable water rates, recycled water rates are subject to Proposition 218 requirements.

Recycled Water Rates are typically composed of a fixed charge, as well as a per unit rate based on metered demand, however, LADWP could adopt a recycled water rate structure similar to their potable water rate structure. Currently, LADWPs recycled water customers are charged as contract users at a rate equal to 80 percent of the commodity charge. Recycled water service tends to be considered part and parcel to the all-encompassing water systems of agencies. As a result, recycled water rates may or may not be grouped together with standard potable water rates. This approach recognizes that recycled water offsets demands on potable supplies thereby increasing water supply reliability. When constructed appropriately, recycled water rates equitably recover the costs of service from the recycled water customers.

3.1.4 Stormwater Pollution Abatement Charge

The Stormwater Pollution Abatement Charge is a tax which is assessed yearly on property owners within Los Angeles and pays for the City's Stormwater Program. The Stormwater Pollution Abatement Charge generates $28 million annually for the City's program. These funds pay for flood control projects and system maintenance and upgrades, and pollution abatement programs and projects.

3.1.5 Low Impact Development Plan Check

Low Impact Development Plan Check is required for all new development projects over 500 square feet (sq ft). During the review process, the plans will be reviewed by the City for compliance with the City's General Plans, zoning ordinances, and other applicable local ordinances and codes, including stormwater requirements. The review fees generate approximately $1.2 million in constant dollars per year.

3.1.6 Municipal Bond Financing

Within the discussion of rates, it is necessary to discuss the utilities' ability to issue bonds to fund large capital projects. Two common municipal bonds used to fund water and wastewater programs are revenue and general obligation bonds. Revenue bonds are backed by the revenues of the utility and are the primary source of funding for LASAN and LADWP projects. General obligations bonds are backed by the taxing authority of the issuer and require a public vote.

These two types of municipal bonds provide a competitive cost of financing relative to other forms of bonds because interest paid to bond holders is tax exempt. However, dependent upon the project being financed and nature of that project, an agency may issue other types of bonds, such as private activity bonds. The optimal financing structure should be determined on a case-by-case basis. Finally, it is important to note that revenue bonds require agencies to meet annual debt service coverage ratios, demonstrating that the agency has the ability to pay annual debt service payments and generate revenues in excess of minimum operating expenses and annual debt repayment obligations.

3.1.7 Assessments

An alternative to rates or taxes, assessment districts have been used as an additional method for financing public improvements. An assessment is a charge levied and imposed on property to pay for special benefits that parcels receive from local government improvements (e.g., water or sewer facilities) or services (e.g., maintenance of stormwater facilities). Assessments are levied pursuant to statutory authority or, in some instances charter city authority. Of significance is the requirement that the property must be specifically benefitted by the improvements or services for which the assessment is imposed.

Fee increases for flood control and stormwater services are subject to the same vote requirement as most property-related fees, as they are not included in the sewer and water service exemption. To impose a new property assessment, a local government must secure the approval of a weighted majority of affected property owners, with each property owner's vote weighted in proportion to the amount of the assessment he or she would pay. An alternative is to seek a two-thirds popular vote on a special tax to support flood or stormwater projects or programs.

3.2 Voter-Approved Tax Measures

Aside from rates, the participating agencies also have at their disposal tax measures that can be applied statewide, regionally (e.g., within a specific watershed), or across the benefitting service district or municipality. These measures generate revenue that is dedicated to a specific purpose.

3.2.1 Statewide Tax Measures

Statewide tax measures can raise a substantial amount of revenue. Unlike rates or other sources, they are not restricted for use (beyond the language of the measure) and carry advantageous interest rates, and the money is secure.

Statewide tax measures, however, exhibit significant lag times between each step of a project's funding process, from the identification of the need to the inclusion of the tax measure on the ballot to the collection of revenues. Additionally, statewide tax measures require major upfront investments in order to garner support. Furthermore, statewide tax would still require the City to apply for and be awarded funds for projects, which may or may not happen.

3.2.2 Regional/Watershed/County Tax Measures

Agencies can pass local or regional tax measures in order to fund some of the projects identified as part of One Water LA. While the scope of the regional tax measure is smaller than that of a statewide measure, it still requires the support and coordination of multiple stakeholders. This may or may not pose a delay or obstacle in the passing of the measure.

3.2.2.1 Proposition O

In 2004, Los Angeles voters passed Proposition O, which authorized the City to fund projects (up to $500 million) that prevent and remove pollutants from its regional waterways and ocean. The projects are intended to assist the City in meeting Federal Clean Water Act requirements. Proposition O will also fund improvements to protect water quality, provide flood protection and water supply, increase water conservation, provide habitat protection, and create open space.

Proposition O funds projects that fall into one or more of the following categories:

- Water quality protection of rivers, lakes, beaches, bays, and the ocean;
- Water conservation, drinking water, and source protection;
- Flood water reduction, river, and neighborhood parks that prevent polluted runoff and improve water quality; and
- Stormwater capture, cleanup, and re-use.

An Administrative Oversight Committee (AOC) and Citizens Oversight Advisory Committee administer the projects funded by Proposition O. It is important to note that Proposition O may only be used to fund capital projects and does not fund associated operational, maintenance, or replacement costs for these projects.

3.2.2.2 Proposition 1

The Water Quality, Supply, and Infrastructure Improvement Act (Proposition 1) was passed on November 2016. The bond authorizes $7.5 billion in general obligation bonds to fund ecosystems and watershed protection and restoration, water supply infrastructure projects, including surface and groundwater storage, and drinking water protection. According to the California natural resources agency's website, $1.08 billion remains in grant funding. Grant and RFP deadlines and other details regarding Proposition 1 can be seen in Appendix D.

3.2.2.3 Measure M

Measure M is a county-wide sales tax surcharge that will fund improvements to the transportation system in the County. Many of these projects will benefit the City's stormwater compliance obligations, because existing transportation rights of way are significant portions of the impervious surface area within the City, and the development of new transportation facilities will comply with the City's LID Ordinance. Thus, the transportation improvements will offset City needs to fund green streets and other LID initiatives.

3.2.2.4 Measure A

Measure A is a Los Angeles County measure passed in November 2016 that authorizes general obligation bonds for construction of new parks and open space, and includes project elements to improve stormwater management in those projects. LASAN has developed several strong partnerships with the LACDPR and LARAP where recreational benefits, open space values and stormwater quality improvement were all realized in multi-benefit projects. It is reasonable to assume that these innovative partnerships will continue and that many of the regional stormwater project needs could be realized in projects that continue this tradition of park projects that provide these multiple benefits. It is assumed that a relatively small portion of Measure A funds would be spent on stormwater improvement projects, but nonetheless the resulting funding for these projects could be on the order of $5 million in constant dollars per year.

3.2.2.5 County-wide Special Tax

A potential future revenue source can also be the county-wide special tax. Los Angeles County Board of Supervisors is considering a county-wide special tax on properties that would help fund additional stormwater capture and management projects. The details of the proposal are still being developed, and it is recommended that the City coordinate and contribute to the development of the proposal.

3.3 Grants and Loan Programs

Outside of direct funding measures (rates or taxes), there is an opportunity to utilize Federal or State grant or loan programs. In the cases of grants or revolving fund loans, when the benefits of certain types of projects fall under the purview or service area of either LADWP, LASAN, the City, or LACFCD, the responsible agency becomes the applicant for the grant or loan. When projects that could be funded by tax measures provide a benefit to multiple agencies, the agency that is most well-suited to handle the application process would assume the application responsibilities.

As each potential funding opportunity involves a commitment of limited staff and resources, it is important for each agency to determine whether the potential funding available is reasonable for the level of effort.

3.3.1 Clean Water State Revolving Fund Loans

Clean Water State Revolving Fund (CWSRF) loans are administered by either states or the Environmental Protection Agency (EPA) in a federal-state partnership. The California CWSRF is administered by the California Water Resources Control Board. The funds provide low interest loans to finance eligible projects.

The loans have an extremely advantageous interest rate and repayment terms. The funds can be used to support sewer or stormwater projects. However, these funds are limited and are currently highly subscribed. The CWSRF loans cannot be used on drinking water projects.

3.3.2 Drinking Water State Revolving Fund Loans

Drinking Water State Revolving Fund (DWSRF) loans provide low interest loans and are also administered by the EPA in a federal-state partnership or by individual states. DWSRF loans also offer extremely advantageous interest rates and repayment terms. Additionally, they may provide repayment or forgiveness policies for disadvantaged communities.

3.3.3 Other Low-Interest Loans

Other federal and state departments have appropriated funds to administer to public agencies as low-interest loans. The potential low-interest loans available to the participating agencies of One Water LA include the Water Infrastructure Finance and Innovation Act loans and the California Infrastructure and Economic Development Bank Infrastructure State Revolving Fund loans.

3.3.4 Federal Grants

Various federal organizations administer grant programs to support specific capital and other programs that achieve certain policy objectives. While the grant programs have the obvious advantage over loans in that they do not require repayment, they often require local

matching funds, and the application process can be time-consuming and costly. Given that grant funds are limited, require a challenging qualification process, are typically not a long-term funding solution, and expire after a specified time, the applicant agencies might not find the investment worthwhile. Especially, in the case of grants that both provide minimal financial aid and require a relatively large amount of staff time to meet the requirements of the grant provider, some grants may not be appropriate for the participating agencies of One Water LA to pursue.

3.3.4.1 Water Infrastructure Improvements for the Nation Act (WIIN)

On December 16, 2016, President Obama signed into law the Water Infrastructure Improvements for the Nation Act (WIIN). Within the bill, Title IV (Water Resources Infrastructure) authorizes and sets forth conditions in California for:

- Flood Risk Management Projects
- Hurricane and storm damage risk reduction projects
- Flood risk management, ecosystem restoration, and recreation projects

The act contains nearly $10 billion in water infrastructure funding to restore watersheds, improve waterways and flood control, and improve water drinking infrastructure.

Table 1 provides a list of several potential grant and loan funding options available to the City departments and regional entities of One Water LA. Appendix C and Appendix D provide additional programs. These tables represent currently available opportunities.

3.4 Partnerships

Partnerships can also help fund water resilient type projects by leveraging resources between each of the agency involved. The agencies can include City departments, regional agencies, non-profit organizations, and private agencies. Adding to the cost-sharing approach (discussed in Section 2.2), below are a few other partnership concepts the City needs to build upon and evaluate further.

3.4.1 Interdepartmental and Regional Partnerships

Some of the existing stormwater and wastewater projects developed by the City have been completed due to interdepartmental and regional partnerships. For example, stormwater capture projects that can provide water supply benefits to the City are funded by both LASAN and LADWP. This includes both capital and operations and maintenance cost (e.g. LADWP could pay for the capital costs, and LASAN could pay for the O&M depending on the situation, per the City Charter and respective department missions).

Table 1 Available Loan and Grant Funds
One Water LA 2040 Plan – TM 4.1

Providing Agency	Source of Funds	Program Name	Purpose of Program	Grant/Loan Terms
Bureau of Reclamation	Title XVI	WaterSMART	Reclaim impaired groundwater sources	Grants for studies, <~$5M
Bureau of Reclamation	Water Infrastructure Finance and Innovation Act	Water Infrastructure Finance and Innovation Act	Construct stormwater & wastewater infrastructure	Loans for up to 49%, >$10M
State Water Resources Control Board		Clean Water State Revolving Fund	Construct water reclamation facilities	Loans for up to 100% of construction, no cap
State Water Resources Control Board	Proposition 1	Proposition 1 Stormwater Grant Program	Support multi-benefit stormwater management	Construction grants for up to 50%, <$10M
State Water Resources Control Board		Water Recycling Funding Program	Augment or offset water supply	Grants and loans for up to 35%, <$15M
California Infrastructure and Economic Development Bank		Infrastructure State Revolving Fund	Sewage treatment and flood control	Loans for <$25M
California State Resources Agency	Proposition 1B	Environmental Enhancement and Mitigation Program	Mitigate environmental effects of transportation	Construction grants <$500K
California Air Resources Board	Cap-and-Trade permit auctions	Cap-and-Trade	Energy efficiency, waste diversion	Unknown
LA County Propositions A & C	Half-cent sales tax supporting revenue bond	Propositions A & C	Water quality & roadway efficiency	<$10M
City of LA Proposition O	1% property tax increase		Remove pollutants from local waterways and ocean	

Abbreviations:
M = million; K = thousand

3.4.2 Public/Private Partnerships

Public/Private Partnerships (P3s) are cooperative arrangements between public and private parties to construct, finance, and/or operate facilities on behalf of the public agency. Private parties can also include non-profit organizations. Arrangements for P3s are often used for large-scale transportation projects and are used by municipal agency activities, such as ambulance and first response services. The uses of P3s for large scale municipal water and wastewater projects is not as common, but many agencies throughout the United States contract out operations and enter into solar power agreements. Most recently, the San Diego County Water Authority entered into an agreement with Poseidon Water for the production and delivery of desalinated water. This model is currently being explored in other locations in southern California.

One claimed advantage of P3s is that they enable the public sector to harness the expertise and efficiencies of the private sector, while mitigating the public agency's own risk. Another common benefit to a P3 arrangement, in which the private party provides the project funding, is that the public agency is responsible for paying operational payments rather than debt payments with bond coverage obligations.

Generally, financing costs for a P3 will be higher than for a tax-exempt public financing, due to the private sector's higher cost of capital. Nevertheless, extra financing costs can be offset by private sector efficiency, savings resulting from a holistic approach to delivering the project or service, and from a potentially better risk allocation in the long run. P3 projects can also be beneficial by not putting debt directly on government books, thereby limiting potential financial constraints.

3.4.3 Joint Powers Authority

A Joint Powers Authority (JPA) is a partnership between two or more municipal agencies that may jointly exercise any power common to all of them. JPAs are common in California and are used to jointly fund and operate single projects, such as a recycled water facility, or a regional program, such as the Santa Ana Regional Interceptor in San Bernardino and Riverside Counties.

With respect to One Water LA, a local JPA could include LASAN, LADWP, and other agencies. After formation, the JPA and subsequent operating agreements would define the responsibilities including payments for expenditures such as debt service and operating costs. A large project, or project group, would likely require its own specific JPA to define the responsibilities of member agencies (e.g., funding requirements). The JPA may independently issue debt service to fund the project if authorized by the participating agencies.

A shared facility agreement creates joint management of a facility between two entities that would otherwise develop separate facilities. In a shared facility agreement, costs must be allocated appropriately for it to equally benefit all partners. Additionally, financial and operational responsibility for ongoing maintenance and expansion must be clearly defined.

Finally, shared facility agreements can potentially lower costs for each participating agency, as compared to a single agency taking on the project alone, and have the advantage of spreading risk among multiple partners while leading to greater facility utilization.

3.4.4 Other

Partnerships with community volunteers and private owners can also help provide great benefits to the City. The City offers a number of specialized volunteering programs that enhance the City's environment and community development. The volunteering programs also provide an educational benefit for the community on stormwater, water quality, and water supply related issues. While the quantitative value of volunteerism is still being evaluated, there is no doubt that volunteerism serves as a valuable resource for the City.

Encouraging private owner participation can also serve as a resource for implementing stormwater management projects. Encouraging and incentivizing retrofits that incorporates stormwater capture elements on private property can help the City comply with its stormwater obligations.

3.5 Additional Alternatives

While the previously explored funding alternatives outlined above are conventional methods (rates, taxes, loans/grants), various additional alternatives are discussed below. Again, none of these alternatives are mutually exclusive and can be explored depending on available staffing and resources.

3.5.1 Cap and Trade Systems

Water-related Cap and Trade Systems are similar to California's Cap and Trade emissions market where the amount of pollution is capped unless a polluter buys emissions credits or is given approval to undertake pollution offset projects, typically at a lesser cost (e.g., reforestation, ozone depleting projects, livestock digesters, or urban forestry projects). This approach is currently being explored in the San Francisco Bay to address potential, future nutrient limits and has been implemented in the District of Columbia.

Conceptually, a stormwater cap and trade program could cap allowable storm runoff at a customer's property. Instead of credits based on pounds of carbon, the lead agency could issue credits based on gallons of captured stormwater. Property owners who choose to participate and do not need the credits can sell them to those who do. The program would be designed to protect the region's water supplies by reducing runoff through the installation of rain gardens, green roofs, and other stormwater retention green infrastructure.

3.5.2 Rebates and Incentives

Rebates and incentives are cost-based discounts that could be provided to developments that utilize green infrastructure rather than relying on new or existing grey infrastructure for stormwater. The amount of the rebate or incentive should reflect the benefits provided to

the utility such as decreases in costs or other benefits. An incentive is typically a one-time credit applied to a customer's account balance. It is offered to assist property owners with the cost of materials, construction, and installation of qualifying stormwater facilities. Incentives are generally available for rain barrels, rain gardens, permeable pavers, and other projects that reduce the total volume or peak volume of stormwater and/or improve the quality of stormwater leaving a parcel.

The discount incentives encourage Best Management Practices (BMP) and improved stormwater management. The incentives are often cheaper than the alternative for both developers and the utility. In order to maintain the incentives, they need to be crafted carefully to avoid harming the fiscal reliability of the utility.

3.5.3 FAR/Building Bonus Incentives

Floor area ratio (FAR) bonuses can be used to incentivize denser building development. As a result, FAR bonuses are able to encourage a lower stormwater impact. However, updating development zoning may be a better and cheaper tool to achieve the same result.

3.5.4 Incentives for Conservation Easements

A participating agency may decide to provide a financial incentive for land conservation easements. A land conservation easement selectively targets only those rights necessary to protect specific conservation values, such as water quality or migration routes, and is individually tailored to meet a landowner's needs. These would be provided to landowners typically in the form of a tax incentive. Like the cap and trade program credits, these tax credits would provide a market incentive to promote land conservation by setting a value on an environmental good. Unfortunately, the limited funding available for these types of tax credits can constrain the options.

3.5.5 Low Interest Loan Programs

Participating agencies may pursue agreements with financial institutions to provide low interest loans to support retrofits and mitigate upfront costs. The agency may pursue these loans on behalf of developers or property owners in order to encourage improvements. This approach has been implemented by many agencies for sewer laterals, seismic retrofits, and energy efficiency retrofits.

These loans may make private retrofits possible when they would otherwise have been prohibitively expensive due to upfront capital costs. The recipient of the loan, whether public or private, must be responsible for guaranteeing maintenance and repayment. The approved loans are often levied on the property owner's property tax roll. The loan repayment will be prorated and will occur as semi-annual payments on the property tax bill as a special assessment. An example of a residential property loan program for solar, heating, ventilating and air conditioning (HVAC), roofing, windows and door, lighting, other energy efficiency equipment, seismic improvements and water conservation upgrades in California is Property Assessed Clean Energy (PACE) Funding.

4.0 SPECIAL TOPIC GROUP RECOMMENDATIONS FOR FURTHER STUDY

Stakeholders presented their top recommendations for funding strategies at four STG meetings over a 5 month period in 2016, which included:

- Explore stormwater tax or fee options.
- Develop an integrated planning approach with the County and other Cities.
- Increase use of State Revolving Funds for multi-benefit projects.
- Determine how to prioritize projects by measuring results and the value of benefits.
- Highlight benefit based funding to ensure multi-benefit projects are built and maintained.
- Understand how multiple agencies can and should contribute in identifying costs and benefits of water projects.
- Develop partnerships to reduce costs and maximize upstream solutions.

These recommendations will be considered as part of the One Water LA Implementation Strategy and City-wide Policy and Ordinances Technical Memorandums.

5.0 CONCLUSION

As explored above, a wide array of opportunities is available to the One Water LA participants to fund the identified capital improvements, project concepts, and program initiatives. Given the scope of the One Water LA 2040 Plan, and the diversity of projects, the overall funding plan will likely need to include multiple funding sources, such as rates and taxes.

In addition to multiple sources, the benefits and costs may be shared among multiple project participants. While this chapter outlines various funding alternatives, the most appropriate funding strategy for each project or initiative will be determined based on specific attributes and the applicable participating agencies. The outlined funding alternatives, direction of potential timing, sources, and partners provides an overarching framework of how cost-sharing allocation might fit in with potential funding strategies. As a result of the STG workshop process, a high-level process was developed to support a repeatable and transparent plan for each program or project. Tools could be further developed to support the funding process for multi-benefit projects.

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APPENDIX A – REFERENCES

http://bondaccountability.resources.ca.gov/p1.aspx

http://rposd.lacounty.gov/2016-ballot-measure/

http://www.lastormwater.org/about-us/funding/

http://www.lastormwater.org/green-la/low-impact-development/faqs/what-is-the-plan-approval-process/

https://www.congress.gov/bill/114th-congress/senate-bill/612/text

http://theplan.metro.net/wp-content/uploads/2017/07/guidelines_measurem_2017-0714.pdf

APPENDIX B – FINANCING STRATEGIES

One Water LA 2040 - Financing Strategies

	Description	Advantages	Disadvantages
EXISTING UTILITY REVENUE STRUCTURES			
Water Rates	Service charges collected to recover cost of providing water service. Typically composed of a fixed service charge and a per unit rate based on metered demand	Equitable cost recovery when crafted appropriately; can be fairly tailored to costs; consumptive based rates rates can incentivize conservation	Legislative Risk (Prop 218 - protest vote); Revenue risk if demands fall short of projections; Requires close nexus with costs; if tiered rates are successful in incentivizing conservation, cost recovery in the upper tiers is now unsustainable and needs to be realigned
Wastewater Rates	Service charges collected to recover cost of providing sanitary sewer service. Typically composed of a fixed service charge; sometimes includes a variable component based on metered sewer demand, or water demand as proxy	Equitable cost recovery when crafted appropriately; can be fairly tailored to costs	Legislative Risk (Prop 218 - protest vote); Revenue risk if demands fall short of projections; Requires close nexus with costs; Often relies on untested assumptions for flow and loads
Recycled Water Rates	Service charges collected to recover cost of providing recycled water service; typically composed of a fixed service charge and a per unit rate based on metered demand	Equitable cost recovery when crafted appropriately; can be fairly tailored to costs; offers an incentive to potable demand; drought tolerant supply alternative	Legislative Risk (Prop 218 - protest vote); Revenue risk if demands fall short of projections; Requires close nexus with costs; requires policy decision on budgets for sewer vs. water vs. RW
Stormwater Assessments	Assessment based on proportional benefit defined by factors such as parcel size, impervious area, estimated runoff and loads, etc.	Provides direct stormwater funding; general flexibility available for designing rates and credit programs; Funds portions not allocable to water and sewer utilities	Requires voter or property owner approval under Proposition 218. Can be limited by available GIS and parcel data; often relies on assumptions for flow and loads
NEW VOTER-APPROVED TAX MEASURES			
State	Ballot approved tax measures that generate revenues dedicated to a specific purposes	Can be a substantial source of funding, and signifies broad approval, which should improve odds of future success	Significant lag time (every 2 or 4 years) between identified need, ballot measure, and revenues; requires major upfront investment to garner support; statewide measures can ignore local/regional needs, or have political barriers (NorCal vs. SoCal needs)
Regional/Watershed/County	Ballot approved tax measures that generate revenues dedicated to a specific purposes	Less lag time compared with state assessments; can be more closely tailored to local needs, stable revenue source	Requires coordination between multiple players
Municipal/Utility/Service District	Ballot approved tax measures that generate revenues dedicated to a specific purposes	Most closely tailored to local needs; least lag time; stable revenue source	Utilities cannot pass their own tax assessments, and must go through municipality
FEDERAL/STATE GRANT AND LOAN PROGRAMS			
Clean Water State Revolving Loans	Low interest loan program administered by EPA and states; no maximum loan; projects must be eligible (doesn't cover drinking water systems)	Extremely advantageous interest rate and repayment terms; can be used to support sewers and stormwater	Eligibility can be a barrier for some communities/facilities
Drinking Water State Revolving Loans	Low interest loan program administered by EPA and states for drinking water systems and projects	Extremely advantageous interest rate and repayment terms; Additional repayment/forgiveness policies for disadvantaged communities	Some projects may not be eligible
Federal Grants (EPA/HUD/EDA/CDBG)	Grant programs to support specific capital and other programs that achieve certain policy objectives for federal/state/NGO entities	Free money with no repayment needed	May need to meet certain requirement that could make investments not worth grants; limited funds and challenging qualification process; typically not a long-term funding solution and expires after specified time scale; requires aggressive completion deadlines

One Water LA 2040 - Financing Strategies

	Description	Advantages	Disadvantages
INTERGOVERNMENTAL/INTERAGENCY COLLABORATION			
Coordinated Infrastructure Improvement Projects	Multiple entities need to conduct similar CIP, and coordinate efforts together to minimize costs and pool resources	Economies of scale benefits; lower overhead for all involved	Coordination involved requires planning; may not perfectly suit needs of all involved
Cross-Utility Cost Sharing Agreements and Facility Colocation/Integration Projects	Similar to shared facility agreements; provides an option to share costs and facilities between partner agencies	Benefits of economies of scale and cost sharing; risk spread across partners; greater facility utilization	Costs must be allocated appropriately for it to equally benefit all partners; responsibility (both financial and operation) for ongoing maintenance and expansion must be clearly defined
PRIVATE AND MARKET-BASED PROGRAMS			
Utility Fee Discount Incentives	Cost based discounts provided to developments that utilize green infrastructure rather than relying on new/existing grey infrastructure for stormwater	Provides a significant incentive for BMPs and stormwater management; often cheaper for the utility and the developer	Needs to be carefully crafted to keep the utility financially whole; verification and ongoing maintenance of BMPs must be ensured
FAR/Building Bonus Incentives	FAR bonuses (floor-to-area ratio) can be used to incentivize denser building development (greater living floor space per unit lot size)	Denser building spaces have a lower stormwater impact	Zoning might be a better and cheaper tool
Cap and Trade Systems	Similar to carbon cap and trade, sets a cap on an environmental externality, allows trading between market participants to remain below cap	Market sets price for the externality, finding an economically efficient outcome	Can result in geographic hotspots; not as effective as a tax in many situations; only really applies to stormwater
Utility Grants and Loans	Funding from government entities, usually state or EPA	Free money if it's a grant; loans typically come with advantageous lending terms	Limited funding; typically contingent upon meeting certain requirements that may not be worth the reward
Public-Private Partnerships	Joint venture between private investor and public entity; private investor provides needed funding, and often provides operational support or full management of facilities	Provides a source of capital when public funding is not feasible; risk is spread between public and private entities	Private investor expects a return on investment, which may result in differing public policy goals
Shared Facility Agreements	Similar to JPA, creates a joint management of a facility between two entities that would otherwise develop separate facilities	Lower costs due to economies of scale; spreads risk among multiple partners; can lead to greater facility utilization	Costs must be allocated appropriately for it to equally benefit all partners; responsibility (both financial and operation) for ongoing maintenance and expansion must be clearly defined
Local Improvement/Assessment Districts	Financing tool used to raise capital for projects from benefitting property owners; typically used for stormwater in the PNW; does not execute the project, just funds it	Direct linkage between financing for a project and the parcels/properties benefitting; terms of financing are typically advantageous; can incentivize business and developers to undertake projects with cost spreading in place; can be an economic	Subject to close scrutiny to ensure that each property is assessed the appropriate portion (must be in line with benefit)
Incentives for Conservation Easements	Financial incentive for conservation easements--set asides by landholders for conservation purposes; typically in the form of a tax incentive	Uses market to promote conservation by setting a value on environmental good	Limited funding can constrain options; must ensure easement is not used for other conservation programs (double dipping); long-term agreements must have enforceability, management, and longevity
Low Interest Loan Programs	Agreements with financial institutions or the Utility to provide low interest loans to customers to encourage retrofits (ontsite) and mitigate upfront costs.	Encourages customer retrofits which may otherwise be prohibitively expensive due to upfront capital costs	Verification and maintenance must be ensured. Repayment risk.

One Water LA 2040 - Financing Strategies

	Description	Advantages	Disadvantages
REGULATORY DRIVERS			
Green Building/Building Efficiency Standards	Design standards and practices for conserving resources (water and stormwater primarily)	Lower impact for water, wastewater, and stormwater systems at no cost to the utility	Verification and maintenance must be ensured
Stormwater Management Regulations	Regulatory policies that can take many forms (MS4/NPDES, TMDLs, CSO/SSO, etc.) in order to limit non-point discharges	Some programs have been highly effective at reducing pollutant discharges; watershed based programs offer market approaches	Some programs are not yet tied to measurable outcomes, and are more focused on policy measures
Habitat Protection Regulations	Programs that put in place regulatory protections over sensitive ecosystems; Covers a wide range of programs, from ESA protections to wetland & stream mitigation	Have been successful in protecting ecosystems; offers market based approaches in some situations	Verification and longevity are issues with mitigation efforts
Low Impact Development (LID)	Stormwater management strategy that seeks to mitigate the impacts of runoff and stormwater pollution as close to its source as possible. LID comprises a set of site design approaches and best management practices (or BMPs) that are designed to address runoff and pollution at the source.	LID practices can effectively remove nutrients, bacteria, and metals while reducing the volume and intensity of stormwater flows.	Requires passing of ordinance or law requiring that development and redcelopment project mitigate runoff.

APPENDIX C – GRANT AND LOAN DETAILS

This appendix provides information regarding the available funding sources and the requirements of their application processes. This information constitutes the groundwork of an effective approach for the City of LA and the other participating agencies in their identification of appropriate funding opportunities.

C.1 UNITED STATES BUREAU OF RECLAMATION; WATERSMART PROGRAM

The Bureau of Reclamation administers the Sustain and Manage America's Resources for Tomorrow (WaterSMART) program. The WaterSMART program provides grant funding to support projects that reclaim and reuse municipal, industrial, domestic, or agricultural wastewater and naturally impaired groundwater and/or surface waters. Reclaimed water can be used for a variety of purposes such as environmental restoration, fish and wildlife, groundwater recharge, municipal, domestic, industrial, agricultural, power generation, or recreation. This program administers Title XVI grant funds, as part of the WaterSMART program, for three purposes: 1) Feasibility Studies, 2) Authorized Project design and construction, and 3) Research Funding.

C.1.1 Eligibility

To be eligible to receive funding for construction activities, a water reclamation and reuse project must meet all Title XVI pre-construction requirements. These requirements include: (1) a finding that the feasibility study meets the requirements of Title XVI; (2) complete compliance with the National Environmental Policy Act (NEPA) and other environmental clearances; (3) an approved determination of financial capability; and (4) an executed cooperative agreement for financial assistance.

Additionally, there is a limit to the funding that the Bureau of Reclamation will provide for an eligible project. If the amount of Federal funds currently received (including obligated funds) for the project is less than 25 percent of the overall expenses, then the project sponsor may request additional funding for the proposed activity as long as the overall Federal cost share does not exceed 25 percent of incurred expenses.

C.1.1.1 Title XVI Water Reuse Feasibility Study Grants

The Bureau of Reclamation awards grant funding for feasibility studies that study the potential of projects to accomplish the goals and meet the criteria of the WaterSMART program. A Title XVI feasibility study is the first step in becoming an authorized Title XVI project, making the project eligible for Title XVI design and construction funding. The feasibility study must follow a specific outline that covers problems and needs, existing

conditions, alternatives, costs, preliminary environmental review, funding, etc. The feasibility study grants require 50 percent matching contributions from the recipient or other sources. While the yearly total of available funds for grants depends upon Congressional approval, in 2016 Water Reuse Feasibility Study Grants funded nine projects for a total of $1.15 million.

Funding for feasibility studies classifies potential grant recipients into three groups. Funding Group I includes studies that are smaller in scope and are funded up to $150,000 for an 18-month period. Funding Group II includes studies that are larger in scope and are funded up to $450,000 for a 36-month period. Due to a lack of Congressional funding, the Feasibility Study grants were not offered in FY 2016.

C.1.1.2 Title XVI Water Reuse Authorized Project Grants

While these funds are available for application every year for the time being, the yearly total of available funds varies depending on Congressional funding approval. Typically the maximum grant per project has been $2 million to $4 million, however the Bureau of Reclamation may make discretionary decisions to provide larger grants and in FY 2016, grants ranged from $1.2 million to $7.2 million. The entire allocation for the year totaled $30 million for seven projects. Additionally, grants are also capped at 25 percent of the total project costs. For the following FY, applications are due in December each year.

C.1.1.3 Title XVI Water Reuse and Research Funding Grants

The Bureau of Reclamation also funds research for water reuse markets, improve or expand existing water reuse facilities, and streamline the implementation of clean water technology at new facilities. The Bureau stipulates that grant funds make up no more than 25 percent of the total costs of research. Funding for studies lasting up to 18 months (Funding Group I) is capped at $75,000. Funding for studies up to 24 months (Funding Group II) is capped at $150,000. Funding for studies up to 36 months is capped at $300,000. Applications for funding during FY 2016 were due in February of the preceding FY.

C.1.2 Bureau of Reclamation Responsibilities

Project awards will be made through grants or cooperative agreements as applicable to each project. If a cooperative agreement is awarded, the recipient should expect the Bureau of Reclamation to have substantial involvement in the project. The Bureau of Reclamation may collaborate and participate in the management of the project and closely oversee the recipient's activities to ensure that the program objectives are being achieved. This oversight may include review, input, and approval at key interim stages of the project.

At the request of the recipient, the Bureau of Reclamation can provide technical assistance after award of the project. If a recipient receives assistance, they must account for such costs in their budget.

C.1.3 WaterSMART Program Grants - Summary and Review

The Bureau of Reclamation's WaterSMART program supports feasibility studies, project design and construction, and research studies that are intended to further the program's objective of reclaiming and reusing any type of wastewater, naturally impaired groundwater, or surface waters for a wide range of purposes. The WaterSMART program is funded by Title XVI and provides funding for the above purposes along with significant oversight, particular for project cost financing.

While the WaterSMART program will require a significant investment on the part of the applicant in terms of eligibility requirements, application competition, and Bureau involvement, the potentially significant funding for both planning and implementation of projects means that the WaterSMART grants likely provide worthy returns on the investment of staff resources.

C.2 WATER INFRASTRUCTURE FINANCE AND INNOVATION ACT (WIFIA)

C.2.1 Water Resources Reform and Development Act of 2014

The WIFIA program provides low interest rate financing for the construction of water, stormwater, and wastewater infrastructure. Funded projects must be nationally or regionally significant. WIFIA works separately from, but in coordination with, the State Revolving Fund (SRF) programs to provide subsidized financing for large dollar-value projects. The funds are geared towards supporting the implementation of larger projects which must cost at least $20 million. There will be $35 million authorized for appropriations in FY 2017.

Eligible recipients include corporations, partnerships, municipal entities, and SRF programs. Eligible projects include:

- Clean Water SRF eligible projects
- Drinking Water SRF eligible projects
- Projects for enhanced energy efficiency at drinking water and wastewater facilities
- Brackish or seawater desalination projects
- Aquifer recharge projects
- Water recycling projects
- Acquisition of property if it is integral to the project or will mitigate the environmental impact of a project
- Bundled SRF projects submitted under one application by an SRF program
- A combination or projects secured by a common security pledge

Conveniently, WIFIA funds may be used to meet the non-federal portion of project costs to adhere to requirements of other funding sources. The maximum loan may not exceed 49 percent of the project costs. While the WIFIA loan can be combined with other federal funding, the combined value of the federal funding cannot exceed of the total project costs. The interest rate will be no less than the yield on Treasury securities of a similar maturity to the loan in question on the date of execution and the loans must be repaid over a 35-year term or the new facility's useful life, whichever is less. Additionally, the projects must have a dedicated source of revenue.

C.2.2 Selection Criteria

Eligible projects will be vetted based on the following criteria:

1. The extent to which they are nationally or regionally significant, with respect to the generation of economic and public benefits, such as:
    a. the reduction of flood risk;
    b. the improvement of water quality and quantity, including aquifer recharge;
    c. the protection of drinking water, including source water protection; and
    d. the support of international commerce.
2. The extent to which the project financing plan includes public or private financing in addition to assistance under this subtitle.
3. The likelihood that assistance under this subtitle would enable the project to proceed at an earlier date than the project would otherwise be able.
4. The extent to which the project uses new or innovate approaches.
5. The amount of budget authority required to fund the Federal credit instrument made available under this subtitle.
6. The extent to which the project:
    a. protects against extreme weather events, such as floods or hurricanes; or
    b. helps maintain or protect the environment
7. The extent to which a project serves regions with significant energy exploration, development, or production areas.
8. The extent to which a project serves regions with significant water resource challenges, including the need to address:
    a. Water quality concerns in areas of regional, national, or international significance;
    b. Water quantity concerns related to groundwater, surface water, or other water sources;
    c. Significant flood risk;

d. Water resource challenges identified in existing regional, State, or multistate agreements; or

e. Water resources with exceptional recreational value or ecological importance.

9. The extent to which the project addresses identified municipal, State, or regional priorities.

10. The readiness of the project to proceed toward development, including a demonstration by the obligor that there is a reasonable expectation that the contracting process for construction of the project can commence by not later than 90 days after the date on which a Federal credit instrument is obligated for the project under this subtitle.

11. The extent to which assistance under this subtitle reduces the contribution of Federal assistance to the project.

C.2.3 WIFIA Loans - Summary and Review

There are a number of eligibility requirements, the project must also comply with California SRF requirements, and significant competition for the WIFIA loans. Despite the eligibility requirements and the fact that the WIFIA program provides loans and not grants, the size of loans (potentially over $10 million per loan) and the discounted interest rate means that they may be worthy investments for the participating agencies.

C.3 STATE WATER RESOURCES CONTROL BOARD (SWRCB)

C.3.1 California Clean Water State Revolving Fund - Construction Loans

The Clean Water State Revolving Fund provides low interest loans for the purposes of planning, designing, and/or construction of wastewater treatment plants, sewer collectors and interceptors, combined sewers, septic to sewer conversions, stormwater reduction, and treatment, water reclamation facilities. The loan terms last up to a 30-year term or the useful life of new facility, whichever is less. The interest rate is roughly half of the of general obligation bond rate of traditional municipal bond issuances. Additionally, the loans can potentially cover up to 100 percent of eligible project costs.

C.3.1.1 Application Process

The application for an initial financing consists of the "general," "technical," "environmental," and "financial security" packages. Incomplete applications may be submitted, but complete applications will be reviewed and approved for financing first. The project may receive a finalized agreement at this stage if all procurement (i.e., purchases and bidding) is complete or the final project budget for a "Non-Point" or "Estuary" project can be established. The applicant must submit the "final budget approval" package to receive a finalized agreement. Disbursement of planning, design, and administration (soft) costs requires an executed

initial agreement. Soft costs incurred before the initial financing agreement is approved, and eligible equipment and material itemized in the initial agreement and purchased in accordance with applicable federal and state laws, can be reimbursed. Applicants, at their risk, may award construction contracts without DFA approval. Construction costs incurred before the initial financing agreement is approved are ineligible for reimbursement. DFA recommends that the applicant receive a finalized agreement before starting construction to ensure that construction costs are eligible. Disbursement of construction/implementation costs requires an executed finalized agreement. All costs include any remaining soft costs, equipment/material costs itemized in the initial agreement, and construction management and construction or implementation costs itemized in the final budget approval.

C.3.1.2 CWSRF Construction Loans - Summary and Review

Like the WIFIA program, the SWRCB administers loans with discounted interest rates. These loans have the potential to fund up to 100 percent of program costs and are not quite as restrictive and involved as the WIFIA program. The CWSRF loans do require a significant level of administrative tasks and coordination between the contractor, bank, and recipient agency during the disbursement period. Altogether, the CWSRF loans represent a relatively significant return on investment.

C.3.2 Proposition 1 Stormwater Grant Program - Construction Grants

The Water Quality, Supply, and Infrastructure Improvement Act of 2014, otherwise known as Proposition 1, authorized $7.45 billion in general obligation bonds for water system improvement projects throughout California. The SWRCB administers grants and loans for a number of specific types of water system improvements.

Proposition 1 is expected to provide roughly $200 million for a grant program to support construction and implementation of multi-benefit stormwater management projects. This mandate includes, but is not limited to, green infrastructure, rainwater, and stormwater capture projects plus stormwater treatment facilities and demonstration or pilot projects. Each project must deliver multiple benefits, such as: water supply, groundwater management and/or runoff capture and use, water quality, regulatory compliance, flood management, respond to climate change, environmental, water quality and habitat protection/improvement, enhanced recreation and public use areas, community involvement, or employment opportunities. Additionally, the project must be a part of a Stormwater Resource Plan prior to receiving funding and that plan must be included in an adopted IRWM Plan.

Grant funding is limited to a minimum of $250,000 and a maximum of $10 million. The grant recipients will not receive more than 50 percent of the project costs through Prop 1 Stormwater Construction Grants. Applications for Round 2 will be accepted in 2017.

C.3.2.1 Application Process

The grant solicitation includes a number of worksheets that require the recipient agency to outline a detailed workplan, a budget, and a narrative that describes the project's cost effectiveness. Additionally, the SWRCB will track various performance measures to ensure that the project progresses in line with the work plan.

The recipient agency must develop a Storm Water Resource Plan as a condition of receiving grant funds from a bond for stormwater and dry weather run off capture projects. The SWRCB guides these agencies through the process of developing the resource plan. The process includes:

1. Identification of types of local agencies and nongovernmental organization that need to be consulted in developing a Storm Water Resource Plan (SWRP);
2. Definition of the appropriate quantitative methods for identifying and prioritizing opportunities for storm water and dry weather run off capture projects;
3. Definition of the appropriate geographic scale of watershed for storm water resource planning.

C.3.2.2 Prop 1 Grants - Summary and Review

SWRCB administers $100 million in grant funding to support research and implementation of projects that restore and protect the water quality and the environments of coastal waters, estuaries, bays, and near shore waters. These funds are now included within the Prop 1 Stormwater Grant Program and are administered as such.

The Prop 1 research and construction grant applications are some of the more involved of the available grant and loan programs. Additionally, the construction grant is capped at $10 million per project. However, the Prop 1 grant fund is one of the largest and therefore will be funding a large number of projects. As a result, the intense application process is likely to be rewarded with a moderately sized grant. The same can be said for the research grant application.

C.3.3 Water Recycling Funding Program - Planning Grants

The SWRCB also administers Planning Grants through the Water Recycling Funding Program in order to support feasibility studies that investigate the use of recycled water and that recommend alternatives to offset or augment the use of fresh/potable water from state and/or local supplies. Contributions as high as $75,000 to project financing may not be used as reimbursements for prior expenses. Additionally, the grants may not exceed 50 percent of the total costs of the study. Upon receipt of the grant funds, the feasibility study must be completed within one year. Applications are accepted continuously.

C.3.4 Water Recycling Funding Program - Construction Grants

The construction grants are provided through the Water Recycling Funding Program in order to support the construction and engineering of projects that offset or augment fresh water supplies. The construction grants may fund up to 35 percent of the project costs. These funds can be used on expenses related to construction management, contingencies, and engineering services during construction. The recipient agency must ensure that 25 percent of the project capacity must be deliverable within one year of operating while 100 percent of capacity within five years of operation. At least 50 percent of project capacity must serve users who are existing as of the start of project operations. The maximum grant funding allowable per project is $15 million.

C.3.5 Water Recycling Funding Program - Construction Loans

Construction loans are available with low interest rates (generally one half the State of California's most recent bond rate) and up to a 30-year term to fund up to 100 percent of eligible construction costs of projects that offset or augment fresh water supplies. Fund disbursements begin upon the execution of the agreement, however, planning and design costs are in fact eligible for retroactive funding reimbursement. Just like the Construction Grants administered by SWRCB, the Construction Loans require that the recipient agency ensure that 25 percent of the project capacity must be deliverable within one year of operating while 100 percent of capacity within five years of operation. At least 50 percent of project capacity must serve users who are existing as of the start of project operations.

C.3.5.1 Eligibility Criteria

Grants are provided for studies to determine the feasibility of using recycled water and selecting a recommended alternative to offset or augment the use of fresh/potable water from state and/or local supplies. Pollution control studies, in which water recycling is an alternative, are not eligible.

Only local public agencies are eligible to receive a planning grant.

An agency may receive more than one planning grant from the State Water Board. However, each proposed study must be independent in Study Scope and study area from previously-funded studies. The applicant should confer with SWRCB staff regarding its particular study in relation to previous studies prior to applying for additional planning grants.

Grants are provided for facilities planning studies to determine the feasibility of using recycled water to offset the use of fresh/potable water from state and/or local supplies. Pollution control studies in which water recycling is an alternative to disposal, are not eligible.

Planning costs incurred prior to the eligible start date of the agreement are ineligible. The eligible start date is when the planning Study Scope is approved by SWRCB staff.

C.3.5.2 Water Recycling Funding Program - Summary and Review

Under similar eligibility requirements as the Prop 1 grant funding, the SWRCB also administers planning grants, construction grants, and construction grants to qualifying projects. These three funding sources should also not be relied on to fund a major portion of the One Water LA plan. However, the construction grants in particular could be used to fund a not insignificant portion, up to 35 percent, of larger projects and would represent a worthy return on the investment of staff time and resources.

C.4 CALIFORNIA INFRASTRUCTURE AND ECONOMIC DEVELOPMENT BANK

C.4.1 Infrastructure State Revolving Fund

Another type of State Revolving Fund provides low-cost financing for a wide range of infrastructure projects. Eligible projects include sewage collection and treatment, drainage, water supply, and flood control. The loans are repaid over a 30-year term. The interest rate will be based on combination of Interest Rate Benchmark and Interest Rate Adjustments. Loans can fund projects with costs ranging from $50,000 to $25 million. Applications are continuously accepted.

The OneWater LA projects will likely be eligible for the Infrastructure SRF. The application process will likely require a similar level of scrutiny and competition as the CWSRF loans. The financing terms, however, are not quite as beneficial to the loan recipient. Overall, the Infrastructure SRF still represents a worthwhile return on investment of staff time.

C.4.2 California State Resources Agency - Proposition 1B

C.4.2.1 Environmental Enhancement and Mitigation Program - Construction Grants

Local, state, and federal agencies and nonprofit organizations may apply to the California State Resources Agency for grants to fund projects that mitigate the negative environmental effects, over and above that required, of transportation facilities modified or constructed in 1990 or later. Projects that reduce greenhouse gas emissions, increase water use efficiency, and reduce risks from climate change impacts. During the application for the grant, additional scoring points are given for matching funds which otherwise are not required. Grants are generally limited to $500,000.

Although the Environmental Enhancement and Mitigation program provides grants, the scope of the program is very limited and the size of the grants are very small. As a result, this program does not represent a valuable pursuit of potential funding.

C.4.3 California Air Resources Board (ARB)

C.4.3.1 Cap-and-Trade Program - Construction Grants

Funds accrued from the auctions of greenhouse gas emissions permits (auctions) are distributed by the ARB to various state agencies to fund projects relating to energy efficiency, waste diversion, wetlands and watershed restoration, and others. 25 percent of proceeds benefit disadvantaged communities while 10 percent of proceeds are intended to fund projects located in disadvantaged communities.

The Cap-and-Trade program is likely very restrictive on the projects it funds. The application will require significant analysis and proof of wetland and watershed restoration while not providing significant project funding. As a result, this program is not a prime target for pursuing funding.

C.4.4 Los Angeles County Tax Revenue Grants

C.4.4.1 Propositions A&C

Two separate half-cent sales tax supported revenue bond issuances are raising $800 million annually to grant fund transportation related projects that, among other benefits, improve water quality and efficient use of roadways. The maximum allocation for a grant is $10 million.

For those One Water LA projects that provide improvements to transportation infrastructure within the City of LA, funds raised by Prop A and Prop C will be available as potential funding sources. As the goal of the One Water LA project is stormwater capture, the application for Prop A and Prop C grant funds will not be as feasible. However, if the One Water LA projects are awarded grants, funds from these two Propositions could fund up to $10 million of the project costs.

C.4.4.2 Proposition O

Another Los Angeles County revenue bond was issued to fund projects that remove pollutants from local waterways and the ocean. It is supported by a 1 percent property tax increase and provides $500 million in grant funding. There is a Citizen Oversight Advisory Committee that is involved in the implementation of any project funded by Prop O funds. The funds support water-quality, protection of rivers, lakes, beaches, bays, the ocean, water conservation, drinking water and source protection, floodwater reduction, stormwater capture, clean-up, and reuse. Approval by voters as well as the mayor/council are both required in order for projects to receive funding.

Although the application process requires the approval of a both the voters and the LA Mayor or City Council, the funds raised by Proposition O will be able to fund a number of projects. The stormwater projects of the OneWater LA plan align well with the goal of Proposition O and are likely recipients.

APPENDIX D – AVAILABLE GRANTS AND PROPOSITION 1 GUIDELINES

Available Federal Grants 2015-Draft														Reference			
Type	No.	Administering Agency	Opportunity Title	Posted Date/Anticipated RFP	Anticipated Application Deadline	Eligible Grantees	Eligible Projects	Funding Available	Matching Requirements	Max Grant Amount	Notes/Comments	Type: Capital Based	Type: R&D Based	Guidelines	Source	Contact	Potential Planning Partners
FEDERAL	ARMY CORPS OF ENGINEERS																
	1		Water Resources Reform and Development Act (WRRDA)	TBD											Click here to view "Implementation Guidance"		
	ENVIRONMENTAL PROTECTION AGENCY (EPA) REGION 9																
	2		Wetland Program Development Grants: 2015—16	-	(Annual) May 15, 2015	States, tribes, local government agencies, interstate agencies, and intertribal consortia are eligible to apply under this announcement. Non-profit organizations are not eligible to compete under this RFP.	Wetland Program Development Grants (WPDGs) provide eligible applicants an opportunity to conduct and promote the coordination and acceleration of research, investigations, experiments, training, demonstrations, surveys, and studies relating to the causes, effects, extent, prevention, reduction, and elimination of water pollution. Implementation of wetland protection programs is not an eligible project under this announcement	Varies from year to year. $1,575,875 expected from FY15 and $1,575,875 expected from FY16.	Click here for more info (section III)	$50,000-$500,000	Next Funding Announcement will be in FY2017		x		Click here for more info		
			Pollution Prevention (P2) Grants	-				$3.97 Million							EPA Website		
	3		Pollution Prevention (P2) Grants	-	(Annual) May 14, 2015	State governments, colleges and universities (recognized as instrumentalities of the state), federally-recognized tribes and intertribal consortia.	This program funds grants/cooperative agreements that implement pollution prevention technical assistance services and/or training for businesses and support projects that utilize pollution prevention techniques to reduce and/or eliminate pollution from air, water and/or land.		50 percent match	$20,000 - $180,000 per year	Part of outreach? To help businesses target envirnomental sustainability (ex. RW for concrete)		x	Click here to view Guidelines	Click here to view previous grantees		
	4		Pollution Prevention Information Network Grant Program (PPIN)	-	(Annual) May 22, 2015	State governments, colleges and universities (recognized as state entities), federally-recognized tribes and intertribal consortia.	The PPIN grant program funds grants/cooperative agreements that support a national network of P2 information centers that coordinate training and information resources across the nation to minimize any duplication of effort among state programs. The centers offer training and promote new P2 technologies.		50 percent match	$60,000 - $110,000/per year			x	Click here to view RFP			
	5		Source Reduction Assistance Grant Program (SRA)	-	(Annual) May 28, 2015	The 50 states, the District of Columbia, the United States Virgin Islands, the Commonwealth of Puerto Rico, any territory or possession of the United States, local governments, city or township governments, independent school district governments, state controlled institutions of higher education, nonprofit organizations (other than institutions of higher education), private institutions of higher education, community-based grassroots organizations, and federally-recognized tribes and intertribal consortia.	SRA awards support pollution prevention through source reduction and resource conservation work. Applicants must demonstrate new or innovative techniques for education or training that promote P2 and source reduction efforts.		5 percent match	$10,000 - $147,000 per year			x	Click here to view RFP			
			Solid Waste Disposal and Co-disposal Site Cleanup Program: Illegal Disposal Site Abatement Grant Program	Continuous	August 6, 2015; November 5, 2015; February 4, 2016	Grants are available to public entities, including counties, cities, districts, and state agencies	The purpose of this program is to clean up solid waste and solid waste co-disposal sites where the responsible party either cannot be identified or is unwilling or unable to pay for timely remediation, and where cleanup is needed to protect public health and safety and/or the environment. This program seeks to reverse the loss of economic value, loss of enjoyment, and degradation of pride in communities affected by abandoned, idled, or underutilized properties where illegal dumping occurs. Eligible project costs include: Waste removal and disposal; Security measures, such as fences, barriers, and warning signs; Measures to prevent recurring illegal dumping; Site grading and drainage controls to minimize erosion; Slope and foundation stabilization; Excavation, consolidation, and capping of waste areas; Installation of landfill gas and leachate control systems; Field and laboratory testing; Health and safety measures required for eligible project work	$1 Million	Yes	$500,000		x		Click here to view Guidelines			SRCRD

Available Federal Grants 2015-Draft														Reference			
Type	No.	Administering Agency	Opportunity Title	Posted Date/Anticipated RFP	Anticipated Application Deadline	Eligible Grantees	Eligible Projects	Funding Available	Matching Requirements	Max Grant Amount	Notes/Comments	Type: Capital Based	Type: R&D Based	Guidelines	Source	Contact	Potential Planning Partners
FEDERAL	BUREAU OF RECLAMATION																
	6		WaterSMART: Water and Energy Efficiency Grants	-	(Annual) January 15, 2015	States, Indian tribes, irrigation districts, water districts, or other organizations with water or power delivery authority located in the Reclamation States or Hawaii.	Projects should seek to conserve and use water more efficiently, increase the use of renewable energy, protect endangered and threatened species, facilitate water markets, or carry out other activities to address climate related impacts on water or prevent any water-related crisis or conflict.	Funding will be awarded at one of two levels: Funding Group I: Up to $300,000 per agreement for a project up to 2 years. Funding Group II: Up to $1,500,000 for an agreement for up to 3 years for a small number of projects.	Yes (50/50)						http://www.usbr.gov/watersmart/calendar.html		
	7		Cooperative Watershed Management Program (CWMP) Grants	-	June 11, 2013	States, Indian tribes, irrigation districts, water districts, or other organizations with water or power delivery authority located in the Reclamation States or Hawaii.	The purpose is to improve water quality and ecological resilience and to reduce conflicts over water through collaborative conservation efforts in the management of local watersheds. The primary goal is to address two major concerns synonymous with watershed groups – 1) the need for funding to pay the salary of a full-time coordinator and 2) the limited funding available for project management.		Yes (50/50)	$1 Million	Cooperative Watershed Management Program will not receive any funding in fiscal year 2015						
	8		Drought Response	-	June 25, 2015	States, Indian tribes, irrigation districts, water districts, or other organizations with water or power delivery authority located in the Reclamation States or Hawaii.	It will provide assistance to water users for drought contingency planning, including consideration of climate change information and to take actions that will build long-term resiliency to drought. "Drought resiliency" refers to the capacity of a community to cope with and respond to drought.	$2 Million	Yes (50/50)	$200,000	Annual?			Click here to view Evaluation Criteria		Avra Morgan at 303-445-2906 or aomorgan@usbr.gov	
	NATIONAL SCIENCE FOUNDATION																
	9		Energy for Sustainability	-	(Annual) October 20, 2015	Universities and Colleges, Non-profit, non-academic organizations, For-profit organizations, State and Local Governments(State educational offices or organizations and local school districts), Unaffiliated Individuals, Foreign organizations, Other Federal agencies.	The goal of the Energy for Sustainability program is to support fundamental engineering research that will enable innovative processes for the sustainable production of electricity and fuels. Processes for sustainable energy production must be environmentally benign, reduce greenhouse gas production, and utilize renewable resources.	$100,000/year			Click here for more info	x					

Available Federal Grants 2015-Draft														Reference			
Type	No.	Administering Agency	Opportunity Title	Posted Date/Anticipated RFP	Anticipated Application Deadline	Eligible Grantees	Eligible Projects	Funding Available	Matching Requirements	Max Grant Amount	Notes/Comments	Type: Capital Based	Type: R&D Based	Guidelines	Source	Contact	Potential Planning Partners
FEDERAL	US DEPARTMENT OF TRANSPORTATION																
	10		TIGER	-	(Annual) June 5, 2015	Public entity, including municipalities, counties, port authorities, tribal governments, MPOs, or others in contrast to traditional Federal transportation programs that provide funding to limited groups of applicants (mostly State DOTs and transit agencies)	The grant program will focus on capital projects that generate economic development and improve access to reliable, safe and affordable transportation for disconnected communities both urban and rural, while emphasizing improved connection to employment, education, services and other opportunities, workforce development, or community revitalization. - See more at: http://www.transportation.gov/tiger#sthash.D6kpCP26.dpuf	$500 million ($100 million for rural areas)		…	DOT also evaluates projects on innovation, partnerships, project readiness, benefit cost analysis, and cost share. - See more at: http://www.transportation.gov/tiger/about#sthash.F2hr0t3A.dpuf				http://www.transportation.gov/tiger		
	11		Center For Environmental Excellence (CEE)	August 7, 2015	October 15, 2015	Unrestricted	Type: Cooperative Agreement. The purpose of the Center for Environmental Excellence (CEE) will be to provide a wide range of products and services to assist agencies in achieving environmental excellence in delivering their transportation programs and projects. Through its information-sharing, technical assistance, partnership-building and training resources, the purpose of the CEE is to directly engage Federal Highway Administration stakeholders such as State Department of Transportations (State DOTs), Metropolitan Planning Organizations (MPOs), local planning organizations, other Federal and state surface transportation agencies to incorporate environmental compliance, and stewardship into transportation planning, project development, construction, maintenance, and operations.	$4 Million			Highway Research and Development Program ($115 Million awarded in 2014)				http://www.grants.gov/web/grants/search-grants.html	(Cant seem to find a good source on this grant. Will continue to search)	
	US DEPARTMENT OF AGRICULTURE (USDA)																
			Community Facilities Grant	-	Applications accepted year round (grant and loans)	Public bodies, Community-based non-profit corporations, Federally-recognized Tribes	Funds can be used to purchase, construct, and / or improve essential community facilities, purchase equipment and pay related project expenses. Examples of essential community facilities include: 1. Health care facilities such as hospitals, medical clinics, dental clinics, nursing homes or assisted living facilities 2.Public facilities such as town halls, courthouses, airport hangars or street improvements 3. Community support services such as child care centers, community centers, fairgrounds or transitional housing 4. Public safety services such as fire departments, police stations, prisons, police vehicles, fire trucks, public works vehicles or equipment 5. Educational services such as museums, libraries or private schools 6. Utility services such as telemedicine or distance learning equipment 7. Local food systems such as community gardens, food pantries, community kitchens, food banks, food hubs or greenhouses	$2 Billion requested in 2013. 2015 Information not available.	Matching requirements depend on community population and median household income. Click here for more info.		Contact your local office to discuss your specific project	x			Click here to view : Project checklist for public agencies	Janice Waddell, Acting State Director 430 G Street, # 4169 Davis, CA 95616-4169 Voice: (530) 792-5800 Fax: (530) 792-5837 www.rd.usda.gov/ca	
			Rural Community Development Initiative ??	May 15, 2015	(Annual) 4:00 pm Local Time - August 13, 2015	Public bodies, Non-profit organizations, Federally Recognized Tribes	To improve housing, community facilities, and community and economic development projects in rural areas. Rural Community Development Initiative grants may be used for, but are not limited to: 1. Training sub-grantees to conduct: Home-ownership education & Minority business entrepreneur education 2. Providing technical assistance to sub-grantees on Strategic plan development, Accessing alternative funding sources, Board training, Developing successful child care facilities, Creating training tools (videos, workbooks, and reference guides Effective fundraising techniques).	$ 6.3 Million	Matching fund requirement equal to amount of grant	$250,000.00	Contact your local office to discuss your specific project		x	Click here to view RFP	Click here for more info	Janice Waddell, Acting State Director 430 G Street, # 4169 Davis, CA 95616-4169 Voice: (530) 792-5800 Fax: (530) 792-5837 www.rd.usda.gov/ca	

Available Federal Grants 2015-Draft														Reference			
Type	No.	Administering Agency	Opportunity Title	Posted Date/Anticipated RFP	Anticipated Application Deadline	Eligible Grantees	Eligible Projects	Funding Available	Matching Requirements	Max Grant Amount	Notes/Comments	Type: Capital Based	Type: R&D Based	Guidelines	Source	Contact	Potential Planning Partners
FEDERAL	US DEPARTMENNT OF COMMERCE, ECONOMIC DEVELOPMENT ADMINISTRATION (EDA)																
			FY 2016 Economic Development Assistance Programs - Application submission and program requirements for EDA's Public Works and Economic Adjustment Assistance programs.	October 26, 2015	There are no submission deadlines under this opportunity	County governments, Nonprofits, Public and State controlled institutions of higher education, State governments, City or township governments Native American tribal organizations	EDA solicits applications from applicants in rural and urban areas to provide investments that support construction, non-construction, technical assistance, and revolving loan fund projects under EDA's Public Works and EAA programs. Grants and cooperative agreements made under these programs are designed to leverage existing regional assets and support the implementation of economic development strategies that advance new ideas and creative approaches to advance economic prosperity in distressed communities. EDA provides strategic investments on a competitive- merit-basis to support economic development, foster job creation, and attract private investment in economically distressed areas of the United States.	$3 Million	Matching requirements depend on Communities unemployment rate and median income	$100,000.00	Closing date: 10/31/2018	x	x	Click here to view RFP	Click here for more info		
	US DEPARTMENT OF ENERGY																
	12		Advanced Research Projects Agency- OPEN	-	Concept Paper Submission Deadline: 2/27/2015 5:00 PM ET Full Application Submission Deadline: 6/29/2015 5:00 PM ET	State, local, and tribal government entities are eligible to apply for funding as a member of a Project Team, but not as a Standalone Applicant or as the lead organization for a Project Team.	Development of potentially disruptive new technologies across the full spectrum of energy applications; reducing imported energy, reducing energy-related emissions, and improving energy efficiency.	$1-$10 Million	at least 20% of the Total Project Cost	TBD	Annual?		x	Click here to view guidelines	Click here to view website		
	13		State energy program competitive financial assistance program	(Annual) 1/20/15	(Annual) 3/31/15	State entities are eligible to apply for funding as a Prime Recipient.	advance policies, programs, and market strategies that accelerate job creation and reduce energy consumption while achieving energy and climate security for the nation.	$5 Million in total.	20% match	$100,000-$800,000	Grants are given depending on the annual areas of interest. Applications are not accepted through grants.gov		x	Click here to view guidelines	Click here to view website and previous awardees		
	US ENDOWMENT FOR FORESTRY & COMMUNITIES, INC.																
	14		Healthy Watersheds Consortium Grant Program	-	March 14, 2016	Not-for-profit 501(c)(3) organizations, for-profit companies, tribes, intertribal consortia, interstates, state, and local government agencies including water utilities and wastewater facilities, and colleges and universities are eligible for funding. Unincorporated individuals and federal agencies are not eligible. Public/private partnerships are particularly desirable.	The Healthy Watersheds Consortium Grant Program goal is to accelerate strategic protection of healthy, freshwater ecosystems and their watersheds. This goal will be achieved by: Funding key projects identified in existing watershed protection, source water protection, green infrastructure, or other conservation plans; Building the sustainable organizational infrastructure, social support, and long-term funding commitments necessary to implement large-scale protection of healthy watersheds; and Supporting innovative or catalytic projects that may accelerate or broadly advance the field of practice for watershed protection efforts	$ 1.5 Million	25% Match	$200,000			x	Click here to view Guidelines	http://www.usendowment.org/healthywatersheds.html	contact Peter Stangel at peter@usendowment.org.	
Note: Currently tracking California Emergency Drought Relief Act which allocates funding in the following categories: Water Recycling, Water Technology Research and Innovation, and other additional water funding programs.																	

Available State Grants 2015														Reference			
Type	No.	Administering Agency	Opportunity Title/Funding No.	Posted Date/ Anticipated RFP	Anticipated Application Deadline	Eligible Grantees	Eligible Projects	Funding Available	Matching Requirements	Max Grant Amount	Notes/ Comments	Type: Capital Based	Type: R&D Based	Guidelines	Source (link)	Contact	Potential Planning Partners
STATE	DEPARTMENT OF WATER RESOURCES																
	1		**Proposition 1**				**Click here to see more extensive spreadsheet**										
	2		IRWD Implementation Program Proposition 84		Applications due August 7, 2015 at 5:00 pm	Local public agencies and non-profit organizations, as defined in Appendix B. Federally recognized Tribes can be members of a Joint Powers Agreement (JPA), per Government Code §6500 et seq.	Eligible projects must yield multiple benefits; and include one or more of the following elements as other benefit(s): 1. Water supply reliability, water conservation, and water use efficiency. Stormwater capture, storage, clean-up, treatment, and management 2.Removal of invasive non-native species, the creation and enhancement of wetlands, and the acquisition, protection, and restoration of open space and watershed lands 3.Non-point source pollution reduction, management, and monitoring 4.Groundwater recharge and management projects 5.Contaminant and salt removal through reclamation, desalting, and other treatment technologies and conveyance of reclaimed water for distribution to users 6.Water banking, exchange, reclamation, and improvement of water quality 7.Planning and implementation of multipurpose flood management programs 8.Watershed protection and management 9.Drinking water treatment and distribution	Bond Funding Allocation for entire program is $1 billion. Prop 84 allots grant funding to 11 funding areas.			Ineligible Uses: Operation and Maintenance Activities			Click here to view final guidelines	http://www.water.ca.gov/irwm/grants/p84implementation.cfm		
	3		Flood Corridor Program	Perhaps Fiscal year 2016/2017	TBD	Local public agencies (county, city, district or joint powers authority), nonprofit organizations, California Native American Tribes registered as a nonprofit organization or partner of a nonprofit or local public agency. Also, direct expenditure funding to other government agencies (local, State, or federal), nonprofit organizations, or contractors for projects proposed by DWR that are in the State's interest to fulfill program goals.	This statewide program funds multi-objective, flood risk reduction projects that protect and restore floodplains and preserve or enhance wildlife habitat and agriculture. The program funds primarily non-structural projects, including acquiring and conserving floodplains, removing structures and precluding development in flood prone areas, and constructing earthen detention basins, along with restoring habitat and protecting agricultural land. Setback levees are also included when they enable a more naturally functioning floodplain. Flood Corridor Program includes three flood protection grant programs: Flood Protection Corridor Program (Propositions 13 and 84); Floodway Corridor Program (Proposition 1E); Central Valley Nonstructural Grants Program (Proposition 1E).	$18 Million Available.		$5 Million				Click here to view 2010 guidelines (what they tend to use)	http://www.water.ca.gov/grantsloans/grants/corridor.cfm	Contacts: Patrick Luzuriaga (916) 574-0932 Patrick.Luzuriaga@water.ca.gov	
	4		Water Security, Clean Drinking Water Coastal and Beach Protection Act of 2002	ongoing		Eligible applicants are public water systems under the regulatory jurisdiction of CDPH.	Contaminant treatment or removal technology pilot and demonstration studies	$10 Million		$5 Million/grant						Steve Giambrone Steven.Giambrone@water.ca.gov916-653-9722	
	5		Water Security, Clean Drinking Water Coastal and Beach Protection Act of 2002	ongoing		Eligible applicants are public water systems under the regulatory jurisdiction of CDPH.	Drinking water disinfecting projects using UV technology and ozone treatment	$15 million remaining. (25% of funds will be allocated to disadvantaged communities)		$5 Million/grant							
	6		California Safe Drinking Water Bond Law of 1988	ongoing		Public Agencies: Any city, county, city and county, district, joint powers authority, or other political subdivision of the state which owns or operates a domestic water system	Projects that help meet the Safe Drinking Water Standards	$6.2 Million remaining		Contact Staff					http://water.ca.gov/grantsloans/grants/prop81sdw/index.cfm	Jeremy Callihan Jeremy.Callihan@water.ca.gov916-653-4763	
	SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS																
	7		Sustainability Planning Grant		2017	TBD	TBD				Emailed SCAG (August 2015), they stated that the next round of awards will hopefully be in 2017.				http://sustain.scag.ca.gov/Pages/DemoProjApplication.aspx	Greig Asher asher@scag.ca.gov	
	SANTA MONICA BAY RESTORATION COMMISSION																
			Santa Monica Bay Prop 84 Grant Program	November 2, 2015	January 15, 2016	Any public entity or non-profit organization is eligible to apply for grant funds under this program. Joint proposals between multiple organizations involved in similar or related activities are strongly encouraged. Grant funds may only be encumbered by one organization per agreement. There is no limit to the number of applications an organization may submit.	Improve water quality through enhancement of current federal and state framework and collaborative, integrated watershed wide planning and implementation. 1. Improve water quality through pollution prevention and source control. 2. Protect and enhance water quality through the restoration of wetlands, streams, and riparian zones. 3. Protect public health through the achievement of no beach closures and postings at Santa Monica Bay beaches. 4. Maintain/increase natural flood protection through ecologically functioning floodplains and wetlands. 5. Conserve water and increase local water supply.		The grantee must provide a funding match of at least 20% (for projects from $1,000,000 to $5,000,000), or 15% (for projects less than $1,000,000). For projects in Disadvantaged Communities, a funding match of at least 10% (for projects from $1,000,000 to $5,000,000), or 5% (for projects less than $1,000,000) is required.	$6 Million	Applications are submitted through FAAST. Grant applicants are strongly encouraged to contact Water Board staff assigned to the SMBRC to ensure projects meet eligibility requirements	x		Click here to view Final Guidelines	http://www.smbrc.ca.gov/about_us/prop84/index.shtml		

Available State Grants 2015														Reference			
Type	No.	Administering Agency	Opportunity Title/Funding No.	Posted Date/ Anticipated RFP	Anticipated Application Deadline	Eligible Grantees	Eligible Projects	Funding Available	Matching Requirements	Max Grant Amount	Notes/ Comments	Type: Capital Based	Type: R&D Based	Guidelines	Source (link)	Contact	Potential Planning Partners
STATE	STATE WATER RESOURCE CONTROL BOARD										Applications are submitted through FAAST						
			Clean Water State Revolving Fund (CWSRF) -Loan Forgiveness		(open) Continuous. First come first serve basis.	Any municipality (including an Indian tribe or authorized Indian tribal organization), intermunicipal, interstate, or state agency (regardless of population, household income, or wastewater rates)	State Water Resources Control Board will provide CWSRF loan (principal) forgiveness to projects that address water or energy efficiency, mitigate storm water runoff, or encourage sustainable project planning, design, and construction	$30 Million in 2015	50%	$2.5 Million	You can apply now! Applications are submitted through FAAST			Click here for Eligibility Requirements	http://www.waterboards.ca.gov/water_issues/programs/grants_loans/srf/	contact the CWSRF at CleanWaterSRF@waterboards.ca.gov or (916) 327-9978.	
	8		Site Cleanup Fund Sub-Account		(Annual) Pre-Application due for 1st round of SCAP funding cycle – **November 2 2015**	Grants- No restriction of who is eligible to apply. Contact SWRQB.	Provides financial assistance to eligible applicants to cleanup surface and groundwater contamination of the highest risk to human health, safety, and the environment where the RP has no financial resources. Eligible projects: 1. Remediate harm or threat to human health, safety, and the environment from surface or groundwater contamination 2.Regulatory agency has issued a directive, unless infeasible 3.Responsible Party lacks financial resources	$19 Million	No	Unspecified	Funding will begin July 1, 2015.			FACT SHEET	http://www.waterboards.ca.gov/water_issues/programs/grants_loans/scap/	Lisa Babcocklisa.babcock@waterboards.ca.gov916-341-5797	
	9		Prop 84 Section 75021		(Open) continuous	Public Water Systems	Safe Drinking Water Emergency Funding - Funding to assist in the abatement of public health emergencies.	$2.1 million		$250k maximum ($50k maximum for interim water supplies)						Noel Gordon (916) 445-7290 noel.gordon@waterboards.ca.gov	
	10		Water Recycling Funding Programs (WRFP) (Part B): Water Recycling Construction Program (WRCP) - FY 2016	FY 2016	TBD		The purpose of the Water Recycling Construction Program (WRCP) component is to provide loans and grants to support the construction of water recycling facilities, including costs for design, legal tasks, construction management, and engineering during construction. Projects must fall under one of the following categories: State water supply and the delta State water supply Local water supply Local groundwater reclamation In addition, projects with the objective of pollution control, and miscellaneous projects without identifiable benefits to the state or local water supply, may be considered for loans.	$ 625,000,000	65% or 60% for (Small DAC's)	35 % of actual eligible construction costs up to $15 million or 40% of acutal eligible construction costs up to $20 million for small disadvantaged communities (SDAC's)				http://www.waterboards.ca.gov/water_issues/programs/grants_loans/water_recycling/facilitiesplan.shtml		
			Clean Beach Initiative Grant (CBI)		Continuous	Public Agencies, Nonprofit Organizations , Public Colleges, Public AgenciesIndian Tribes	Projects that restore and protect water quality of coastal waters, estuaries, bats, and near shore waters, with an emphasis on projects that reduce bacterial contamination on public beaches. Continuous funding cycle, with intermittent closures to review proposals, until funds are exhausted (FAAST app)	$30 Million	Yes, Varies depending on the project	$5 Million				Click here to view guidelines	http://www.waterboards.ca.gov/water_issues/programs/beaches/cbi_projects/index.shtml		
	11		Legal Entity Formation Assistance (LEFA) Program	Pilot program had an initial one time application solicitation period of August 2013-November 2013. Future solicitations will be dependent upon pilot studies.		All of the following types of entities are eligible to submit an application on behalf of affected communities: public entities such as cities, counties, special districts, existing public water systems, public colleges, public universities, non-profit organizations, and Joint Powers Authorities	Pilot program whose purpose is to assist communities that do not have access to safe drinking water, and public water system not eligible for Safe Drinking Water State Revolving Fund (SDWSRF) funding due to the lack of an eligible entity. Funds are to assist with the formation of a legal entity with the necessary authority to enable access to SDWSRF funds for these communities.	$1,045,989. Not all funds will be awarded as amount requested from the three remaining active funding applications does not exceed $700,000.		Maximum: $250,000						Lorri Silva: 916-449-5639 Lorri.Silva@waterboards.ca.gov	

Available State Grants 2015														Reference			
Type	No.	Administering Agency	Opportunity Title/Funding No.	Posted Date/ Anticipated RFP	Anticipated Application Deadline	Eligible Grantees	Eligible Projects	Funding Available	Matching Requirements	Max Grant Amount	Notes/ Comments	Type: Capital Based	Type: R&D Based	Guidelines	Source (link)	Contact	Potential Planning Partners
STATE	WILDLIFE CONSERVATION BOARD																
			Stream Flow Enhancement Program: Round 2 Solicitation Development		April 29, 2016	Eligible grantees are limited to public agencies, nonprofit organizations, public utilities, federally recognized Indian tribes, state Indian tribes listed on the Native American Heritage Commission's California Tribal Consultation List, and mutual water companies	Funds granted by Wildlife Conservation Board under the Program will be focused on addressing the objective of providing and protecting enhanced stream flow in those streams that provide the following: -support for anadromous fish; -support for special status, threatened, endangered or at risk species; -provide wildlife corridors; -provide resilience to climate change. In addition, co-benefits of such actions may contribute toward attaining other California Water Action Plan objectives. The goals of the program are threefold: -Support projects that lead to meaningful increases in the availability and quality of water in streams, particularly by protecting and restoring functional ecological flows for streams and wetlands identified as priority for fish and wildlife. -Support those projects by working to remove key barriers to securing enhanced flows for nature (e.g., by making it easier to change the timing of flows as needed, crafting long-term programs that allow for short-term leases/transfers for nature, or streamlining processes for long-term transfers of water for stream flow). -Support projects that allocate resources for infrastructure (e.g., gauges) for evaluating streamflow conditions in California's streams that help us better understand how streamflow conditions respond to efforts to improve flows.	$38 Million	Yes, Unspecified	$5 Million				Click here to view guidelines	https://www.wcb.ca.gov/		
	12		Land Acquisition and Habitat Enhancement and Restoration Program - Southern California coastal wetlands and watersheds	Continuous		Cities, counties, nonprofit organizations, special districts and state entities	Funding for acquisition and habitat restoration projects for protection and restoration of coastal wetland and watersheds within the five southern California coastal counties	$51 million		none					www.wcb.ca.gov	Peter Perrinepeter.perrine@wildlife.ca.gov916-445-1109	
	13		Funding for acquisition projects to assist with implementation of Natural Community Conservation Plans	Continuous		Cities, counties, nonprofit organizations, special districts and state entities	Funding for acquisition projects to assist with implementation of Natural Community Conservation Plans	$16 million		none					www.wcb.ca.gov	Dave Meansdave.means@wildlife.ca.gov916-445-1095	
	14	Baldwin Hills Conservatory				cities, counties, JPA's, nonprofit organizations or any public entity or non-profit organization established pursuant to the laws of the State of California and qualified under the Internal Revenue Code section501(c)(3), 501 (c)(4), or 501(c)(5)	The purpose of the BHC grant program is to provide funds for planning, acquisition and capital improvement projects that benefit the Ballona Creek Watershed and Baldwin Hills Conservancy territory consistent with the Conservancy strategic plan and related work programs prepared pursuant to Public Resources Code section 32568 and pursuant to subdivisions (b) and (c) of Section 1 of Chapter 752, Statutes of 1999.	$18 million		none					www.bhc.ca.gov	Contact: David McNeildavid.mcneill@bhc.ca.gov323-290-5270	
	THE CALIFORNIA NATURAL RESOURCE AGENCY																
	15		The Environmental and Mitigation Program		(Annual) 7/13/2015	Any state, local, federal or 501(c)(3) non-profit entity may apply for and receive grants. The agency or entity is not required to be a transportation or highway related organization, but must be able to demonstrate adequate charter or enabling authority to carry out the type of project proposed, and be eligible for funding under Article XIX of the State Constitution. Partnerships are encouraged; however, only one agency may submit an application.	**Urban Forestry Project**s are designed to offset vehicular emissions of carbon dioxide through the planting of trees and other suitable plants. **Resource Lands Project**s are for the acquisition, restoration, or enhancement of resource lands (watersheds, wildlife habitat, wetlands, forests, or other significant natural areas) to mitigate the loss of or detriment to such lands within or near the right of way for transportation improvements. **Mitigation Projects Beyond** the Scope of the Lead Agency responsible for assessing the environmental impact of the proposed transportation improvement.	$6.7 Million		Max $1.0 Million for appropriation and $500,000 for development projects	$7 Million Available			http://resources.ca.gov/docs/bonds_and_grants/eemp/2014-15_EEM_Guidelines.pdf	http://resources.ca.gov/bonds_and_grants/eemp/		Caltrans
	16		California River Parkways Grant Program	June 18, 2015	September 1, 2015	Public Agencies and qualified California Nonprofit Organizations (see definitions on pages 46 and 47).	Provided in Guidelines --->	$7.6 Million (estimated)		Max= $500,000	$7.6 Million Available	×		http://resources.ca.gov/docs/bonds_and_grants/river-parkways/2015_River_Parkways_Guidelines_and_Application.pdf	http://resources.ca.gov/bonds_and_grants/river-parkways/	Polly Escovedo email: polly.escovedo@resources.ca.gov	
	17	California Energy Commission	Water and Energy Saving Technologies Rebate Program (WET)		TBD		Technologies that meet the following: 1. Display significant water savings, energy savings, and greenhouse gas emission reductions. 2. Demonstrate actual operation beyond the research and development stage. 3. Document readiness for rapid, large-scale deployment (but not yet widely deployed) in California.				The Energy Commission will implement the WET Program in three phases: Phase 1 will focus on agriculture. Phase 2 will focus on industry, businesses, and residents. Phase 3 will focus on renewable energy powered desalination.(Only guidelines for Phase one have been published)			http://docketpublic.energy.ca.gov/PublicDocuments/15-WATER-01/TN205314_20150709T172849_WET_Rebate_Guidebook.pdf	http://www.energy.ca.gov/wet/		

Available State Grants 2015													Reference			
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STATE	CALTRANS																
	18		Sustainable Planning Transportation Planning Grant	August 17, 2015	October 30, 2015	(Metropolitan Planning Organization (MPO) and Regional Transportation Planning Agency (RTPA))	These grants may be used for a wide range of transportation planning purposes that address local, regional, and interregional transportation needs and issues. The implementation of these grants should ultimately lead to the adoption, initiation, and programming of transportation improvements. The Caltrans Division of Transportation Planning provides the following transportation planning grants: a. Strategic Partnerships b. Sustainable Communities				Previous Grantees		x	Click here to see Guidelines	http://www.dot.ca.gov/hq/tpp/grants.html		
	19		Strategic Partnerships			Only MPOs and RTPAs that have a current Master Fund Transfer Agreement (MFTA) with ORP may apply directly for the Strategic Partnerships grants. Eligible sub-applicants include: MPOs and RTPAs, universities and community colleges, Native American Tribal Governments, cities and counties, community-based organizations, non-profit organizations (501.c.3), and public entities	Funds transportation planning studies of interregional and statewide significance, in partnership with Caltrans.	$1,500,000	20% minimum (in nonfederal funds or an in kind* contribution). The entire minimum 20% local match may be in the form of an eligible in kind contribution. Additional local funds above the minimum local match are desired.	Grant Min: $100,000 Grant Max: $500,000							
	20		Sustainable Communities			Eligible primary applicants for the Sustainable Communities grants include: MPOs and RTPAs; transit agencies; cities and counties; and, Native American Tribal Governments. Eligible subapplicants include: MPOs and RTPAs, universities and community colleges; Native American Tribal Governments; cities and counties; community-based organizations; non-profit organizations (501.c.3), and public entities.	Funds studies of multimodal transportation issues having statewide, interregional, regional or local significance to assist in achieving them Caltrans Mission and overarching objectives.	$8,300,000	11.47% minimum (in cash or an in-kind* contribution). The entire minimum 11.47% local match may be in the form of an eligible in-kind contribution.	Grant Min: $50,000 Grant Max: $500,000							
		Department of Fish and Game	Environmental Enhancement Fund (EEF)		Applications typically due August, but next solicitation is not planned until Spring 2016.	Nonprofit organizations, cities, counties, cities and counties, districts, state agencies, and departments; and, to the extent permitted by federal law, to federal agencies				None					www.wildlife.ca.gov/OSPR/Science/Environmental-Enhancement-Fund/About		
	CALIFORNIA STATE PARKS																
	21		Habitat Conservation Fund		On an annual basis, applications are due on the first work day in October.	Cities, counties, districts.	The California Wildlife Protection Act of 1990, Chapter 9, Fish and Game Code 2780-2799.6 was enacted to provide funding in the Habitat Conservation Fund. Funding categories include the following:(a) The acquisition of habitat, including native oak woodlands, necessary to protect deer and mountain lions.(b) The acquisition of habitat to protect rare, endangered, threatened, or fully protected species.(c) The acquisition of habitat to further implement the Habitat Conservation Program.(d) The acquisition, enhancement, or restoration of wetlands.(e) The acquisition, restoration, or enhancement, of aquatic habitat for spawning and rearing of anadromous salmon IDs and trout resources.(f) The acquisition, restoration, or enhancement of riparian habitat. (g) The acquisition or development of wildlife corridors and urban trails, which bring urban residents into park and wildlife areas. (h) Nature interpretation, educational, or other enrichment programs that bring urban residents into park and wildlife areas.	Approx. $2 Million/year		None					http://www.parks.ca.gov/?Page_id=21361		
	22		Land and Water Conservation Fund Program (LWCF)		February 3, 2016	Counties, cities, recreation and park districts, special districts with authority to acquire, develop, operate, and maintain public park and recreation areas.	The purpose of this program is to provide assistance in the planning, acquisition, and development of recreation lands. Acquisition projects must result in a new recreation opportunity for the public. Development projects are intended to increase outdoor recreational opportunities and must develop recreation features for outdoor recreation. Projects must meet at least one of the applicable priorities listed on pages 12-13 of the NOFA file. Examples of eligible projects include:	$6.5 Million	50%	$2 Million	Fund Source : National Park Service (Federal) - Federal Trust Fund	x			http://www.parks.ca.gov/default.asp?Page_id=21360		
	CAL FIRE																
	23		Green Trees for The Golden State		November 17, 2016	Eligible applicants include cities, counties, qualifying districts, or nonprofit organizations qualified under Section 501(c)(3) of the Internal Revenue Code (PRC 5096.605). Districts include, but are not limited to, school, park, recreation, water, and local taxing districts.	Urban tree planting projects and tree establishment care during the grant period. Preference will be given to the planting of trees to optimize the multiple benefits of urban forests in environmental justice communities with special attention given to GHG sequestration and avoided GHG emissions.	Unspecified	25%	$ 1,000,000.00				Click here to view draft guidelines	http://www.fire.ca.gov/resource_mgt/resource_mgt_urbanforestry		
	24		Green Innovations		November 17, 2016		For urban green infrastructure projects falling within the scope of the Urban Forestry Act of 1978 that are not able to fit in one of the other Urban Forestry Grant Programs above. These projects should be unique and forward-thinking. Projects must show how GHG will be reduced. Selection will be strongly focused on environmental justice communities	Unspecified	25%	$ 1,500,000.00					http://www.fire.ca.gov/resource_mgt/resource_mgt_urbanforestry		

Available Local Grants 2015														Reference		
Type	No.	Administering Agency	Opportunity Title/ Funding No.	Posted Date/ Anticipated RFP	Anticipated Application Deadline	Eligible Grantees	Eligible Projects	Funding Available	Matching Requirements	Max Grant Amount	Notes/Comments	Type: R&D Based	Type: Capital Based	Guidelines	Source	Potential Planning Partners
Local	METRO															
	1		Transportation Improvement Program	September 24, 2015	October	Local jurisdictions, transit operators, and other public agencies are encouraged to submit applications proposing projects for funding.	Pedestrian Improvements, Bicycle Improvements, Transportation Demand Management, Signal Synchronization and, Bus Speed Improvements, Goods, Movement Improvements, Regional Surface Transportation Improvements	$193 Million	unknown	unknown				2015 Call for Projects Preliminary Recommendations	http://media.metro.net/projects_studies/call_projects/images/rainbow_draft_2015_0625.pdf	
	METROPOLITAN WATER DISTRICT															
	2		Local Resources Program	2014	Open on continuous basis until the target yield of 63,000 acre-feet per year is fully subscribed	The LRP is open to public and private water agencies within Metropolitan's service area. Applications must be made through the applicant's respective Metropolitan member agency.	New water recycling, groundwater recovery, and seawater desalination projects are eligible for funding provided they include construction of new substantive treatment or distribution facilities. Existing projects or those that have commenced construction prior to application submittal are ineligible. Strong consideration will be given to projects that are well positioned for construction and timely production of stated project capacities in the near future. Projects with long ramp-up schedules may be addressed in phases. Agency must apply for each phase separately when each phase is poised for timely construction and operation	Unknown	Unknown	There are three LRP incentive payment structure options to choose from: sliding scale incentives up to $340/AF over 25 years, sliding scale incentives up to $475/AF over 15 years, or fixed incentive up to $305/AF over 25 years				http://www.mwdh2o.com/PDF_About_Your_Water/2.4.3.1_Local_Resources_Program_Application.pdf	http://www.mwdh2o.com/AboutYourWater/Planning/Funding-Programs/Local-Resource-Program-Funding	

Available Public/Private Grants 2015													Reference		
Type	No.	Administering Agency	Opportunity Title/ Funding No.	Posted Date/ Anticipated RFP	Anticipated Application Deadline	Eligible Grantees	Eligible Projects	Funding Available	Matching Requirenments	Max Grant Amount	Notes/Comments	Type: R&D Based	Type: Capital Based	Guidelines	Source	Potential Planning Partners
PRIVATE	THE TIFFANY AND CO. FOUNDATION															
	1		Urban Parks	N/A	Continuous	U.S.-based, tax-exempt organization with 501(c)(3) status	To make an impact on surrounding communities and the environment, the Foundation focuses on the rehabilitation, protection and creation of public urban green spaces and the enhancement of the visitor experience. GOAL: To enhance the urban environment in major cities around the world. STRATEGIES: • Improve the urban parks experience by supporting infrastructure and strategic design improvements, rehabilitation and beautification efforts in existing parks. • Support the creation of new urban green spaces	Based on Project	None	Unspecified		x	x	Click here to view guidelines	http://www.tiffanyandcofoundation.org/grants/	
	2		Coral Conservation	N/A	Continuous	U.S.-based, tax-exempt organization with 501(c)(3) status	The Foundation supports organizations that work to improve the health of oceans through research, preservation and management of coral reefs. GOAL: To promote the preservation of precious corals and healthy marine ecosystems. STRATEGIES: • Promote awareness and education of the importance of corals and marine ecosystems through outreach to targeted constituencies such as consumers, ocean enthusiasts and select marine-tourism providers. • Support key research and reef management strategies to directly contribute to saving reef ecosystems.	Based on Project	None	Unspecified		x				
	COVERGENCE PARTNERSHIP															
			Innovation Fund				The IF provides targeted funding and technical assistance to encourage local and regional foundations to take an innovative approach to promoting healthy, equitable communities through policy and environmental changes.	$1.8 Million			Emailed (3.16.16) more information to come					
	THE CALIFORNIA ENDOWMENT															
			Building Healthy Communities (The California Endowment does not accept unsolicited letters of intent or proposals. Grants are by invitation only.)			1. U.S. 501(c)(3) nonprofit organizations that are not classified as private foundations 2. Government entities 3. Faith-based organizations that welcome and serve all members of the community 4. For-profit entities	In collaboration with our grantees and partners, we seek to use these grantmaking tools to expand access to affordable, quality health care for underserved individuals and communities, and to promote fundamental improvements in the health status of all Californians.	Unspecified	$3 dollars to every $1 contributed by the applicant					http://www.calendow.org/grants-and-pris/#grants-overview	

Available Grants 2015- Other													Reference		
Type	No.	Administering Agency	Opportunity Title/ Funding No.	Posted Date/ Anticipated RFP	Anticipated Application Deadline	Eligible Grantees	Eligible Projects	Funding Available	Matching Requirements	Max Grant Amount	Notes/Comments	Type: R&D Based	Type: Capital Based	Guidelines	Source	Potential Planning Partners
OTHER		(STATE) DEPARTMENT OF CONSERVATION														
	1		Sustainable Agriculture Land Conservation Program (Sustainable Agricultural Land Strategy Grants)		Annually, first year deadline is March 20, 2015	Counties and/or cities as the lead applicant(s) in collaboration with other partners.	The Sustainable Agricultural Lands Conservation Program (SALCP) supports the State's greenhouse gas (GHG) emission goals by making strategic investments to protect agricultural lands. Sustainable Agricultural Land Strategy Plans— Short term grants to counties, cities, and partners, to inventory and evaluate which agricultural lands are most highly productive and critically threatened and develop locally appropriate strategies, programs and actions that ensure the long term protection of those lands.	$ 1 Million - Total		Up to $100,000 each	how much ag. land in the city of LA?				http://www.conservation.ca.gov/dlrp/SALCP/Pages/Index.aspx	
		CALIFORNIA ENERGY COMMISSION														
	2		Energy Innovations Small Grant Program (EISG)		Periodic solicitations, typically three times a year	Individuals, small business, non profit organizations, and academic institutions	The Energy Innovations Small Grants Program awards grants to target one or more of the R&D energy research areas. Additionally, the awards must establish the feasibility of new, innovative energy concepts and provide a potential benefit to California electric and natural gas ratepayers.	$1.5 Million per year		$150,000 for hardware projects and $100,000 for modeling projects.			x		http://www.energy.ca.gov/research/epic/	
		(STATE) DEPARTMENT OF WATER RESOURCES														
	3		Water Security, Clean Drinking Water, Coastal and Beach Protection Act of 2002	Round 4: Spring 2016		Cities, counties, JPAs, IOUs, public special districts, tribes, non-profit organizations, universities and colleges, state and federal agencies (with some exceptions), other political subdivisions of the state	Brackish water and seawater desalination as a water supply or quality option to directly support local resources and indirectly provide water supply benefits to the state.			$3 Million per project	The remaining $$ of Prop 50 will be released to this grant in joint with Prop 1 grant funding.					
		SAVE OUR SEAS FOUNDATION														
	4		Keystone Grants (Part A)	2 Stage Application Stage I: March 1, 2016 Stage II: June 15, 2016	Stage I: April 30, 2016 Stage II: August 15, 2016	Any individual/agency may apply	The program supports research, conservation, and education activities that are capable of attracting significant public attention and that may genuinely increase public and government awareness of the urgent need to protect the marine environment. All award recipients will be required to undertake public awareness and environmental education activities, such as giving talks or issuing press releases, as part of their project.	$10,000-$100,000 biennial (every other year)	N/A	$100,000		x		Click here to view guidelines	http://saveourseas.com/funding-applications/	
		SC JOHNSON														
			Philanthropic Giving	"There are no application deadlines. We accept applications on a rolling basis. In most cases, applications will be reviewed by staff within 90-120 days of their submission"	None	Qualified tax-exempt, section 501(c)(3) charity based in the United States, or a government entity such as a school, library, or public agency.	AREAS OF FOCUS GIVING: Community & Economic Development - Programs that improve the quality of life in the areas of economic and community infrastructure, capacity building, economic development, safe neighborhoods and job training. Education - Programs that emphasize student academic achievement, with a focus on academic enrichment and advancement, i.e., early childhood education, K-12; post-secondary; technical and vocational schools. Health & Wellness - Programs that encourage public health and wellness education and equitable access to healthcare, as well as community sports and recreation programs. Social Services- Programs that provide supportive services for low-income/at-risk individuals or families to help them on the road to self-sufficiency, i.e., services for families, disabled, elderly; domestic disaster prevention; temporary shelter; and support for the disadvantaged and those living in poverty. **Environment & Sustainability** - Programs that encourage sustainability through stewardship of community ecosystems; pollution abatement; natural resource conservation; environmental beautification; renewable energy; and wildlife preservation.	Unspecified	No	Unspecified	Click here for more information					
		General Motors Foundation	General Motors Foundation	At this time, our grants have already been awarded; not currently accepting applications.	Unspecified	TBD	The purpose of this program is to support efforts of nonprofit organizations in the areas of education, health and human services, the environment, and community development, as follows: Education: focus on education that will support the next generation of leaders and innovators, particularly in the fields of science, technology, engineering, and mathematics (STEM), as well as cultural and hands-on environmental studies experiences. Health and human services: emphasis on health care, disaster relief, wellness, and vehicle-related safety. Environment and energy: investment in education that promotes environmental sustainability, conservation, and protection. Community development: support for economic development, social action, and improving communities where General Motors operates.	Unspecified	No	Unspecified	Click here for more info					

Available Grants 2015- Other														Reference		
Type	No.	Administering Agency	Opportunity Title/ Funding No.	Posted Date/ Anticipated RFP	Anticipated Application Deadline	Eligible Grantees	Eligible Projects	Funding Available	Matching Requirements	Max Grant Amount	Notes/Comments	Type: R&D Based	Type: Capital Based	Guidelines	Source	Potential Planning Partners
OTHER	KINDER MORGAN FOUNDATION															
			Environmental Educational Grants	Our deadlines are the 10th of every other month beginning in January. (We will accept applications postmarked on or before a deadline.)		Non profits, public schools and private schools may apply.	The purpose of this program is to provide youth with opportunities to learn and grow, thus helping today's science, math, and music students become the engineers, educators, and musicians who will support the funding agency's diverse communities for many years to come. This program funds projects that promote the academic and artistic interests of young people. Projects must benefit K-12 children. The program's focus areas include: Academic projects including tutoring and Arts education projects. Environmental education projects that work with local schools and meet curriculum standards. Funds must be used for project support only; however, libraries may apply for capital projects.	Unspecified	No	Unspecified	We will notify you of our board's decision on your application 60 to 90 days after we receive it	X		Click here to view Guidelines		
	CORPORATION FOR NATIONAL & COMMUNITY SERVICE															
			AmeriCorps State and National Grants FY 2016		1/20/2016 @ 5pm	Private institutions of higher education, Nonprofits, other than institutions of higher education, Public housing authorities/Indian housing authorities, City or township governments Nonprofits, other than institutions of higher education, Native American tribal organizations, Independent school districts Public and State controlled institutions of higher education, Special district governments, County governments, State governments	AmeriCorps grants are awarded to eligible organizations proposing to engage AmeriCorps members in evidence-based or evidence-informed interventions to strengthen communities. An AmeriCorps member is an individual who engages in community service through an approved national service position. Members may receive a living allowance and other benefits while serving. Upon successful completion of their service, members earn a Segal AmeriCorps Education Award from the National Service Trust that members can use to pay for higher education expenses or apply to qualified student loans. Grant awards have two components: operating funds and AmeriCorps member positions. Grant award amounts vary – both in the level of operating funds and in the type and amount of AmeriCorps member positions. Unless otherwise specified, the grant generally covers a three-year project period. In approving a multi-year project period, CNCS generally makes an initial award for the first year of operation. In most cases, the application is submitted with a one-year budget. Continuation funding is not guaranteed.	Varies	Yes. Varies.	Varies				Click here to view guidelines	Contact: americorpsgrants@cns.gov202-606-7508	
			Social Innovation Fund 2016 Pay for Success		Applicants are encouraged to send a Notice of Intent to Apply by Wednesday, January 13, 2016. APPLICATION DEADLINE: Applications must be received by 5:00 p.m. EST, Thursday, February 11, 2016.	Private institutions of higher education, County governments, Native American tribal, governments (Federally recognized), Native American tribal organizations (other than Federally recognized tribal governments) State governments, Nonprofits having a 501(c)(3) status with the IRS, other than institutions of higher, education, City or township governments	The Social Innovation Fund (SIF) Pay for Success (PFS) Grants Competition seeks to advance and develop emerging models that direct resources toward interventions that produce measurable outcomes. Consistent with the broader mission of the SIF, the PFS Competition intends to encourage the implementation of PFS projects in order to enhance the reach and impact of innovative community-based solutions in low-income communities.	$10.6 million	100%	$1,800,000 per year		x	x	Click here to view guidelines	Contact: americorpsgrants@cns.gov202-606-7508	
	CAL RECYCLE															
			Cal Recycle: 2015-16 Rubberized Pavement Grant Program		Continuous	Local Governments, Other local governmental agencies, State agencies, qualifying Indian Tribes.	The Department of Resources Recycling and Recovery (Cal Recycle) administers a program to provide opportunities to divert waste tires from landfill disposal, prevent illegal tire dumping, and promote markets for recycled-content tire products. The Rubberized Pavement Grant Program is designed to promote markets for recycled-content surfacing products derived from only California-generated waste tires. It is aimed at encouraging first-time or limited users of rubberized pavement in two project types - Rubberized Asphalt Concrete Hot-Mix (Hot-Mix) and Rubberized Chip Seal (Chip Seal). An application may include rubberized pavement (hot-mix and chip seal) projects for roadways, Class 1 bikeways (as defined in Streets and Highway Code section 890.4(a)), greenways, and disability access at parks. A greenway is a travel corridor for pedestrians, bicycles, non-motorized vehicle transportation, recreation, or a combination thereof, located along natural landscape features, such as an urban watercourse. Projects must be owned and maintained by the applicant and accessible to the public.	Unspecified	Recommended	$250, 000	Relevant?				http://www.calrecycle.ca.gov/tires/grants/Pavement/FY201516/default.htm	

Proposition 1 - Guideline Schedule

Administering Agency	Name of Program (and link)	Water Code Section	Draft Guidelines	Public Workshop	Final Published Guidelines	Board Adoption/ Grant Solicitation	Total Funding Allocated	Resources	Notes/Comments
State Water Resource Control Board	Clean, Safe and Reliable Drinking Water	79724(a)(1)	05/15/15	06/15/15	08/15/15	N/A (Applications now being accepted)	$260,000,000	Click here to view Guidelines	
State Water Resource Control Board	Small Community Wastewater Grant Fund	79723	02/15/15	03/15/15	06/02/15	N/A (Applications now being accepted)	$8,000,000	Click here to view Final Guidelines	Link-Comments provided by LASAN Plan was adopted June 2, 2015
Baldwin Hills Conservancy	Ballona Creek/Baldwin Hills Watershed Program	79731(a)	04/27/15	05/01/15	04/15/15	05/15/15	Total = $10,000,000 Funding per year: $1-2 Million	Click here to view Draft Guidelines	Applications for grants will begin Summer 2015
San Gabriel and Lower LA Rivers and Mountains Conservancy	Urban Land, Rivers, and Tributary and Mountains, Hills and Foothills Program Areas	79731(f)	03/15/15	04/15/15	08/14/15	10/15/15	$30,000,000	Click here to view FAQs Click here to view Final Guidelines	Needs further investigation to see if grant is applicable to the City of LA
Santa Monica Mountains Conservancy	Multi-benefit Water Quality, Water Supply, and Watershed Protection and Restoration Program	79731(h)	05/15/15	-	-	06/15/15	$30,000,000	Click here to view Final Guidelines	Final due dates for each round are February 28th, May 31st, August 31st, and November 30th.
Coastal Conservancy	Proposition Grant Program	79731(j)	01/15/15	03/15/15	04/15/15	06/15/15	$100,500,000	Click here to view Final Guidelines	Link-PowerPoint
San Gabriel and Lower LA Rivers, Mountains Conservancy, and Santa Monica Mountains Conservancy	An Urban Creek	79735(a)	In process of being developed				$100,000,000		
Natural Resource Agency	Watershed and Urban River Enhancement Program	79735(b)(1)	April 12,2016				$475,000,000		Public Workshop June 2016
Natural Resource Agency	State Obligations	79736	Governor's Budget Proposal Released Jan 2016				$465,500,000		
Dept. of Fish and Wildlife	Watershed Restoration and Delta Water Quality and Ecosystem Restoration Grant Programs	79737(a) and 79738(b)	02/15/15	04/15/15	05/15/15	07/15/15	$372,500,000	Click here to view Final Guidelines Click here to view the Draft Fiscal Year 2016-2017 Proposal Solicitation Notice for Public Review	Needs further investigation to see if grant is applicable to the City of LA Public Meeting to discuss the Draft Solicitation: Thursday, April 7, 2016, from 10:00 a.m. to 12:00 noon, PST
Dept. of Water Resources	Integrated Regional Water Management	79744(a)	Dec-15	Click here to view upcoming workshops (Feb-March)	Apr-16	May-16	$510,000,000	Click here to view draft guidelines	Public comments are due to DWR on April 8,2016.
Dept. of Water Resources	Water Use and Efficiency Grants, Round 1 - Urban and Agricultural	79746(a)	08/15/15	Three upcoming workshops Nov 3-5, 2015	12/01/15		Total=$100,000,000 Available Funding: $30 Million	Click here to view Draft Guidelines	
	CalConserve Water Use Efficiency Loan Program				12/01/15		$10 Million	Click here to view Application Package	
State Water Resource Control Board	Storm water	79747	08/01/15	10/01/15	12/01/15	12/15/15	$200,000,000	Click here to view FINAL Guidelines	Comments submitted by WPD and LADWP 10/13/15. NOTE: MANY PREREQUISITES LISTED IN GUIDELINES.
California Water Commission	Water Storage Investment Program	79750(b)	Submit draft regulations-11/'15			12/15/2016 (next year)	$2,700,000,000	Commission Staff Working Draft Draft Guidelines	Comments to working graft guidelines are currently being accepted. All comments can be posted in their Document Library. Click here to view Document Library
Dept. of Water Resources	Water Recycling Program - Desalination Grants-Round 1	79765	Jan-Feb '16 Draft Guidelines Posted				$100,000,000		Announce grant awards (June-July 2016)
State Water Resource Control Board	Water Recycling	79765	02/15/15	04/15/15	06/15/15	N/A (Applications now being accepted)	$625,000,000	Click here to view Final Guidelines	
State Water Resource Control Board	Groundwater Sustainability	79771	04/01/16	05/01/16	08/01/16	Fall-2016	$800,000,000	Fact Sheet	Upcoming Workshops (Guidelines): November 16-18, 2015
Dept. of Water Resources	Groundwater Plans and Project Grant Program - Phase 1	79775	08/25/15	10/02/15	Nov '15		$100,000,000	Click here to view Final Guidelines	Click here to view "counties with stressed basins application packet"
Dept. of Water Resources and Central Valley Flood Protection Board	Flood Management	79780	In process of being developed				$395,000,000		

Proposition 1 - Updated January 2016									
Administering Agency	**Name of Program**	**RFP Issuance**	**RFP Due Date**	**Schedule Status**	**Eligible Grantees**	**Eligible Projects**	**Total Funding Allocated**	**Matching Req/ Max Amount**	**Contacts**
PROP 1: Santa Monica Mountains Conservancy	Multi-benefit Water Quality, Water Supply, and Watershed Protection and Restoration Program	10/01/15	02/28/16	Award Recommendations to the Board Final due dates for each round are February 28th, May 31st, August 31st, and November 30th.	Public agencies such as districts, joint powers authorities, cities, and counties, nonprofit organizations, public utilities, federally recognized Indian tribes, and State Indian tribes listed on the Native American Heritage Commission's California Tribal Consultation List.	Acquisition Projects • Water Conservation, Treatment and Improvement Projects • Project Planning and Design • Restoration Projects • All Other Improvement Projects • Vegetation Management **Note**: Very strong emphasis on Greenhouse Gas reduction throughout the guidelines	$30 Million in total. Round One = $18 Million (3 Cycles)	25%, Max not specified Special consideration shall be given to projects that will provide the greatest benefit to disadvantaged communities and/or leverage the largest amount in matching funds.	Potential grantees must contact staff at grants@smmc.ca.gov Melissa Cartelli cartelli@smmc.ca.gov (323) 221-8900 x116 www.smmc.ca.gov
US Endowment for Forestry & Communities, Inc.	Healthy Watersheds Consortium Grant Program		March 14, 2016		Not-for-profit 501(c)(3) organizations, for-profit companies, tribes, intertribal consortia, interstates, state, and local government agencies including water utilities and wastewater facilities, and colleges and universities are eligible for funding. Unincorporated individuals and federal agencies are not eligible. Public/private partnerships are particularly desirable.	The Healthy Watersheds Consortium Grant Program goal is to accelerate strategic protection of healthy, freshwater ecosystems and their watersheds. This goal will be achieved by: Funding key projects identified in existing watershed protection, source water protection, green infrastructure, or other conservation plans; Building the sustainable organizational infrastructure, social support, and long-term funding commitments necessary to implement large-scale protection of healthy watersheds; and Supporting innovative or catalytic projects that may accelerate or broadly advance the field of practice for watershed protection efforts	$ 3.75 Million	25% Match, Max not specified	
The Tiffany and Co. Foundation	Urban Parks	N/A	January 31, 2016		U.S.-based, tax-exempt organization with 501(c)(3) status	To make an impact on surrounding communities and the environment, the Foundation focuses on the rehabilitation, protection and creation of public urban green spaces and the enhancement of the visitor experience. GOAL: To enhance the urban environment in major cities around the world. STRATEGIES: • Improve the urban parks experience by supporting infrastructure and strategic design improvements, rehabilitation and beautification efforts in existing parks. • Support the creation of new urban green spaces	Based on Project	None, max not specified	
The Tiffany and Co. Foundation	Coral Conservation	N/A	January 31, 2016		U.S.-based, tax-exempt organization with 501(c)(3) status	The Foundation supports organizations that work to improve the health of oceans through research, preservation and management of coral reefs. GOAL: To promote the preservation of precious corals and healthy marine ecosystems. STRATEGIES: • Promote awareness and education of the importance of corals and marine ecosystems through outreach to targeted constituencies such as consumers, ocean enthusiasts and select marine-tourism providers. • Support key research and reef management strategies to directly contribute to saving reef ecosystems.	Based on Project	None, max not specified	

Proposition 1 - Updated January 2016									
Administering Agency	**Name of Program**	**RFP Issuance**	**RFP Due Date**	**Schedule Status**	**Eligible Grantees**	**Eligible Projects**	**Total Funding Allocated**	**Matching Req/ Max Amount**	**Contacts**
Corporation for National & Community Service	Social Innovation Fund 2016 Pay for Success		Applicants are encouraged to send a Notice of Intent to Apply by Wednesday, January 13, 2016. APPLICATION DEADLINE: Applications must be received by 5:00 p.m. EST, Thursday, February 11, 2016.		Private institutions of higher education, County governments, Native American tribal, governments (Federally recognized), Native American tribal organizations (other than Federally recognized tribal governments) State governments, Nonprofits having a 501(c)(3) status with the IRS, other than institutions of higher, education, City or township governments	The Social Innovation Fund (SIF) Pay for Success (PFS) Grants Competition seeks to advance and develop emerging models that direct resources toward interventions that produce measurable outcomes. Consistent with the broader mission of the SIF, the PFS Competition intends to encourage the implementation of PFS projects in order to enhance the reach and impact of innovative community-based solutions in low-income communities.	$10.6 million	100%, $1,800,000 per year	
Corporation for National & Community Service	AmeriCorps State and National Grants FY 2016		1/20/2016 @ 5pm		Private institutions of higher education, Nonprofits, other than institutions of higher education, Public housing authorities/Indian housing authorities, City or township governments Nonprofits, other than institutions of higher education, Native American tribal organizations, Independent school districts Public and State controlled institutions of higher education, Special district governments, County governments, State governments	AmeriCorps grants are awarded to eligible organizations proposing to engage AmeriCorps members in evidence-based or evidence-informed interventions to strengthen communities. An AmeriCorps member is an individual who engages in community service through an approved national service position. Members may receive a living allowance and other benefits while serving. Upon successful completion of their service, members earn a Segal AmeriCorps Education Award from the National Service Trust that members can use to pay for higher education expenses or apply to qualified student loans.Grant awards have two components: operating funds and AmeriCorps member positions. Grant award amounts vary – both in the level of operating funds and in the type and amount of AmeriCorps member positions.Unless otherwise specified, the grant generally covers a three-year project period. In approving a multi-year project period, CNCS generally makes an initial award for the first year of operation. In most cases, the application is submitted with a one-year budget. Continuation funding is not guaranteed.	Varies	Varies, Varies	

First Draft:	4/1/2017
Final Draft:	8/9/2017
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Lead Author:	Eliza Jane Whitman

CITY OF LOS ANGELES

TECHNICAL MEMORANDUM NO. 4.2
WATER FUNDING TOOLS

FINAL
December 2017

707 WILSHIRE BOULEVARD, SUITE 3920 • LOS ANGELES, CALIFORNIA 90017 • P. 213.489.1587 • F. 213.572.0361

CITY OF LOS ANGELES

TECHNICAL MEMORANDUM
NO. 4.2
WATER FUNDING TOOLS

TABLE OF CONTENTS

Page No.

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATIONS

Abbreviation	Description
CIP	Capital Improvement Plan
City	City of Los Angeles
EPA	Environmental Protection Agency
IRWMP	Integrated Regional Water Management Plan
LACDPR	Los Angeles County Department of Recreation and Parks
LADWP	Los Angeles Department of Water and Power
LARAP	Los Angeles Department of Recreation and Parks
LASAN	Los Angeles Sanitation
SAWPA	Santa Ana Watershed Protection Authority
TM	Technical Memorandum
USACE	U.S. Army Corps of Engineers
WIIN	Water Infrastructure Improvement for the Nation Act

WATER FUNDING TOOLS

1.0 INTRODUCTION

There are various opportunities for the City of Los Angeles (City) to take advantage from various funding agencies. The City of LA officials, staff, and many stakeholders have expressed an interest in the City taking a greater role in obtaining grants that are related to water issues. Grants provide a range of financial benefits ranging from the tens of thousands of dollars to many millions of dollars, based on the type of project and the goals of the funding agency. Determining what is cost effective is a challenge for any applicant, and as a caretaker of public funds, it is the responsibility of the City to make wise decisions related to the request for outside funding for City projects. Through the One Water LA process, the request for obtaining outside funding led to the idea of creating a structure for evaluating which funding opportunities to proceed with.

The objective of this technical memorandum (TM) is to present water-focused tools for the City of Los Angeles. This memo builds upon the work conducted and documented in TM 4.1 - Funding Opportunities. These tools assist in the evaluation of funding opportunities, a recommended minimal "threshold" to determine which funding opportunities are viable from a financial perspective, which includes authorization for applying for a grant. Further, there is a Recommendations and Next Steps section which lays out potential near-term steps.

Stages of funding efforts include:

- selection of projects for grant funding;
- funding viability
- grant selectability analysis;
- project scope, budget and timeline
- grant/loan application effort and submittal;
- award management requirements and contract negotiation
- implementation management

At each stage there are different levels of skill sets and needs for a successful grant.

1.1 Purpose

The main focus is to seek outside funding for the City of Los Angeles on water related projects that will assist in offsetting costs to make the City more water resilient. Constant coordination and communication between City Departments, Regional agencies, organizations, State agencies, etc. will be a necessity for a successful operation.

Securing funding could enhance economic security for the City, increase resiliency by providing funding for projects that provide resiliency, and assist various City departments in completing projects in a timely manner that are listed in their Capital Improvement Plan.

The purpose of using the water funding tools is not to get as many grants and/or funding opportunities as possible. Instead, it is to determine those projects that have a high success rate for funding. This can be accomplished by using private industry approaches for assessing whether or not to use City resources to apply for an opportunity. Management will need to determine what the minimum amount of funding or threshold that makes the receipt of funds viable. This is due to the costs of City labor and resources and involves grant administration, project management, and potentially construction and maintenance requirements.

One of the challenges with integrated projects is that occasionally multiple agencies or departments will pursue the same grant for the same project. Having good communication between departments is an important objective. Finding opportunities that could fund water-focused projects, which preferably are multi-benefit projects, will follow the One Water LA integration approach through Federal, State, and local grants. The tasks include a continuous process of gathering information and tracking the progress of the following items:

- Public-Private Partnerships
- Multi-Benefit Projects in need of Funding
- Grants
- Loans

1.2 Developing Relationships

One of the most important skill sets for those developing funding opportunities is the ability to develop connections between departments and agencies to establish successful partnerships. This crucial function focuses on fostering relationships and connections at all levels within the City.

Currently, both Los Angeles Sanitation (LASAN) and Los Angeles Department of Water and Power (LADWP) have various divisions and groups collaborating to secure funding opportunities, but water may not be their only focus. For example, LASAN is responsible for

Solids management. It is important to understand the existing functions between each department's funding groups to establish a successful partnership. Communication will involve all types of communication tools as well as face-to-face meetings and one-on-one discussions. Tasks to secure funding after relationships have been forged should also include (if not already):

- **Seek outside funding for the City's water projects –** Write proposals matched with best suited grant. This is dependent on the project, the grant's guidelines, and the available resources.
- **Identify projects –** Coordinate with City departments, regional entities, and others to identify the projects for outside funding and find opportunities for partnerships and integration of qualifying water projects.
- **Funding Application Viability, Development and Submittal –** justify effort, determine and secure the required proposal team, define scope and budget, including matching funds, and complete the application.
- **Participate in the development of federal, state, local, and private grants and funding and/or participate in legislative actions –** provide comments and link to the guidelines that focus on the City's project needs. This includes water, transportation, air quality, and many other types of grants.
- **Post-award project management –** Tasks associated with receiving funding are dependent on the funding source. The application process is one that provides insight to the level of detail associated with the grant, loan, or other funding source. Task may include:
  - Follow-up meetings with PMs
  - Reporting (Quarterly, Annually, Etc.)
  - Monthly Accounting and Funds Tracking
  - Budget and Scheduling Updates

The first stage for setting up funding opportunities is to develop a funding information database for eligible funding opportunities. For the initial startup of the database, coordination with the grant offices of both LASAN and LADWP is necessary. LASAN and LADWP grant staff can assist in identifying the existing and future grants or loans the City may want to pursue.

Once a funding opportunity is identified, the identification of which projects may qualify and for what type of funding is needed. Identification of each potential project, or combination of projects, could occur based on priorities and objectives of various City Departments, Regional Agencies, and Other Partners such as Non-profit organizations, private partnerships, and Academia, etc. Based on the description and goals of the funding opportunity, the group will be able to determine the partnerships needed for a successful funding proposal that will lead to a multi-benefit project that will benefit the entire City, and not just one organization.

For all projects, implementation requires a well-planned, thought out and executed process. Controls for managing the projects are necessary including maintaining the scope, budget, and schedule of each project. Reasons why this is important include:

- Many funding agencies are in a position of attracting much attention or publicity
- Stakeholders are interested
- Funding agencies require updates on progress related to the contractual project components.
- Efficient grant management and reporting builds positive relationships with granting entities and project partners leading to a higher likelihood of obtaining future grants.

2.0 FUNDING OPPORTUNITIES

Funding opportunities for the City include federal, state, and local agencies. In addition, determining private options is also required, since partnerships with the private sector is vital for a strong economy and opens the door for other opportunities that might not be available otherwise.

There are several types of funding opportunities. There are three general types of Funding Opportunities that the City should focus on:

- Grants
- Loans
- Public-Private Partnerships

2.1 The Funding Process

As a response to California's continuing drought, California legislators have provided resources for increased water resource management planning. In 2014, major legislation such as the Sustainable Groundwater Management Act and the approval of Proposition 1, a $7.5 billion water bond, was enacted.

California's drought helped highlight the importance of water and the need for integrated planning, large infrastructure projects, conservation, and alternative analysis that evaluates cost effective and efficient projects based on cost-sharing prospects. The cost-sharing prospects include multiple City departments and regional entities working together and streamlining efforts. Due to the focus on infrastructure, it is important to take advantage of the political interest in creating a water-resilient City with infrastructure that assists in minimizing flooding, improving water supply, and improves water quality. This requires being prepared and in some cases having 'shovel-ready' projects when funding becomes available.

One of the most important components to consider during the development process, whether it is a Federal, State, or Local Grant, is the grant's guidelines. For most grants the typical process for the development of the guidelines is as follows:

During the public comment period, different organizations, department, agencies, and other interested parties are given the opportunity to provide comments to the grant's guidelines. Submitting comments to the grant's guidelines will help provide the following benefits:

- Head start in understanding the funding requirements
- Assure the guidelines will consider the types of projects the funding group would like to implement
- Begin establishing a working relationship between the funding group and the funding agency

Once the grant guidelines have been established, the corresponding funding agency will follow their own grant development process.

Figure 1 is an example on how a State Funding Process works for state bonds. Similarly, Figure 2 is an example of a Federal Funding Process.

As can be seen on both Figure 1 and Figure 2, there are many opportunities during development of the bond or grant where the City can provide input. These opportunities are necessary to assure that the City's integrated water projects can be considered for the potential grant. Tracking the development early on will help determine if the grant is worth pursuing and which are not. What is important to note from Figure 1 and Figure 2 is the following:

- City involvement early on is important
- There are opportunities to provide input at many of the stages, the most impactful opportunities are highlighted with the dashed arrow
- Many funding agencies are looking for input
- Early efforts assist in determining grant viability for the City
- Tracking existing City efforts and how they can integrate with the City's water goals is important
- Other key considerations related to certain steps on Figure 3 (page 14) and Figure 4 (page 15) are discussed in Table 1. These details are important to consider since there can be more than one process for bond or program development.

Table 1	**State and Federal Funding Process Considerations One Water LA 2040 Plan – TM 4.2**
Step	**Key Consideration**
State Funding Process	
1	Step one can also be split into more than one way: Bonds can pre-date programs, programs can pre-date bond (ex. Integrated Regional Water Management Plan [IRWMP]), some programs, programs can be created in a bond, line items can be added to legislation (ex. LA River, Santa Ana Watershed Protection Authority [SAWPA]), and programs can also be fee funded rather than bond funded.
2	Draft language is sent to legislative.
4	Bill can be amended many times before there is a consensus.
5	Sent to policy and appropriations committee because bonds are fiscal. Almost always held in appropriations. Implementing legislation will add further restrictions (before and after the bond passes).
6	Bill will go to other House before it is sent to the Governor. Steps 1-6 are repeated.
7	Language is final, but how the money is spent can be refined.
9	Usually done over 3-5 years. Legislature often adds conditions. Spending steps determined immediately.
11	Most grants are competitive. Many require plans to be done ahead. Several agencies may administer grants, each with their own set of additional requirements.
Federal Funding Process	
1	Step one can also be split into more than one way: Create new authorization for major expenditures (ex. Water Infrastructure Improvement for the Nation Act [WIIN]), supporting creation of funding (key grant programs), and supporting existing program budgets (ex. Army Corps).
1	Federal grants are often recommended by agency (ex. Environmental Protection Agency [EPA]) asking for appropriations. Usually initiated by agencies, not congress.
2	• ID types of projects • ID Funding Amount • Draft Criteria • ID Administering Agency • Amount Allocated to Agency(s) • Program Types Identification • Clarification guidelines and reporting requirements
3	Most grants are competitive. Many require plans to be done ahead.
9	Administering Agency internally develops grant/funding selection criteria.

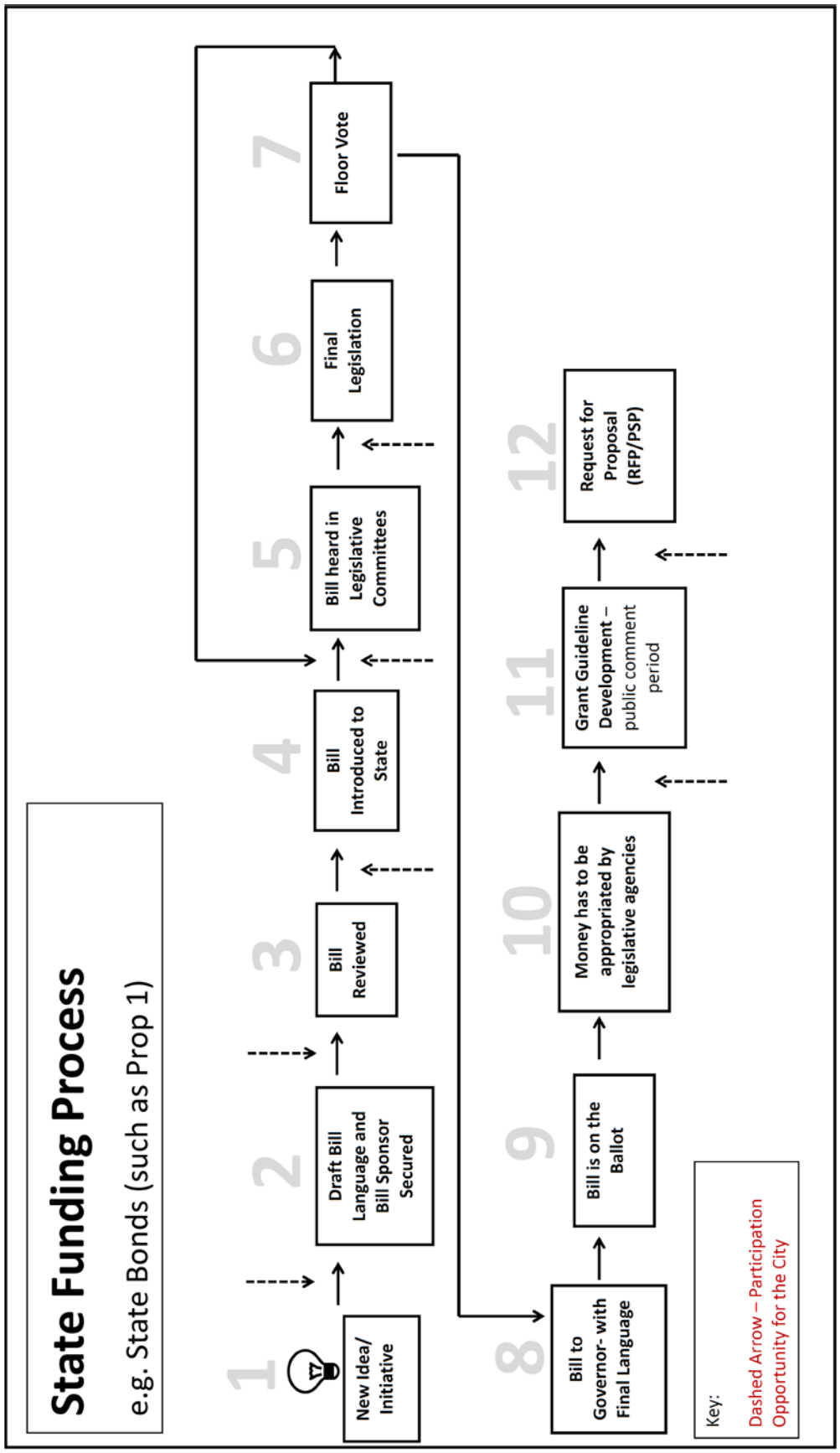

Figure 1 State Funding Process

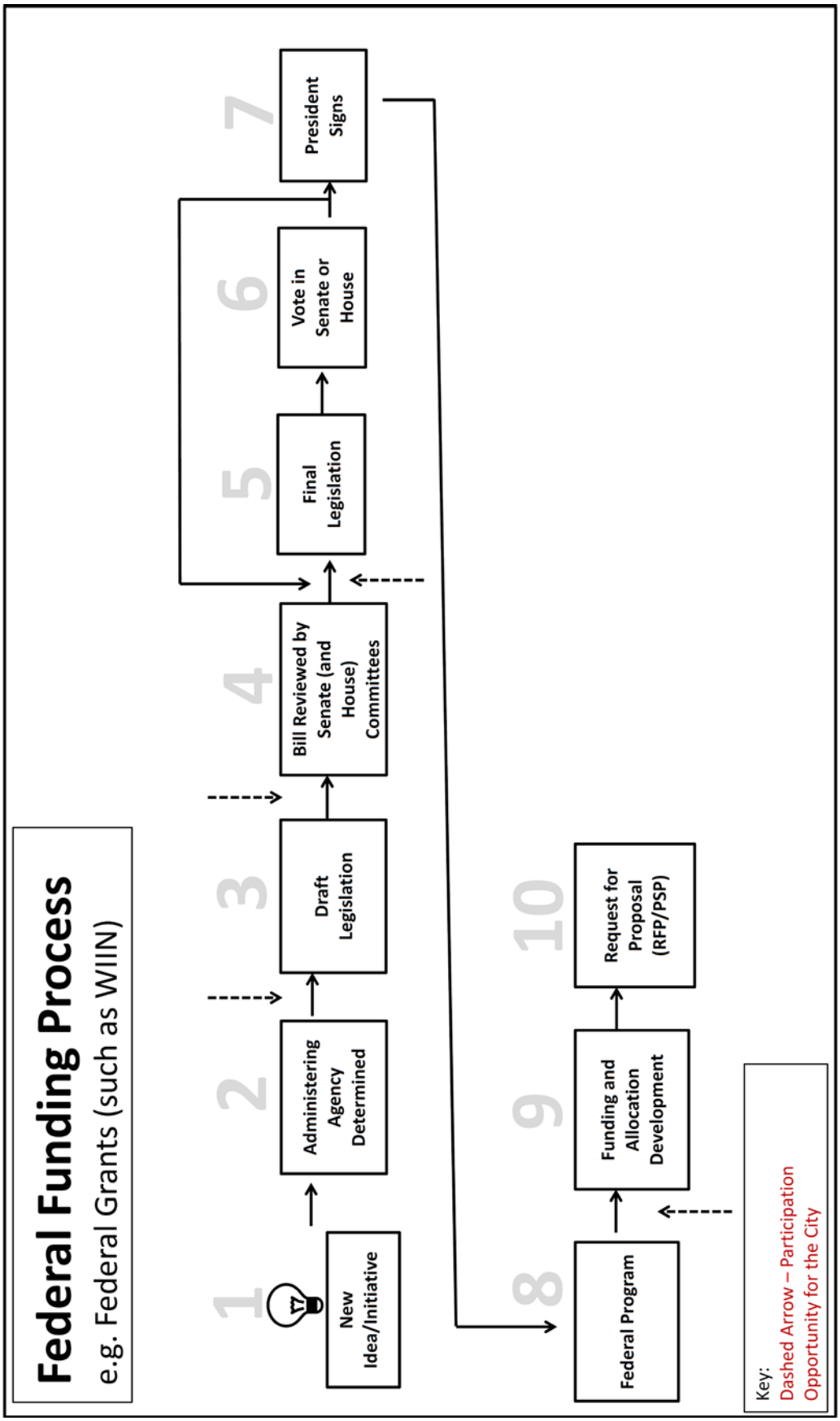

Figure 2 Federal Funding Process

2.2 Current Funding Opportunities

The One Water LA team has been tracking funding opportunities since 2015. There are many opportunities that have been identified from all sectors of the federal, state, and local agencies. There are several that the City is aware that could have positive ramifications if obtained. Below is a list of a few of the funding opportunities:

- Water Infrastructure Improvements for the Nation Act
- Measure M
- City of Los Angeles's sidewalk repair program
- LA County's Park Bond
- State of California's Proposition 1 (The Water Quality, Supply, and Infrastructure Improvement Act of 2014)

A Federal funding opportunity is the Water Infrastructure Improvements for the Nation Act (WIIN) which passed in December 2016. The bill aims to revise or authorize the U.S. Army Corps of Engineers (USACE) water resources development projects, feasibility studies, and relationships with non- federal project sponsors. It establishes a process to deauthorize projects with an aggregate estimated federal cost to complete of at least $10 billion[1]. The bill sets forth to assist states, including California, in implementing the types of water projects necessary for successful water resource management. It includes provisions to improve collaboration between entities of local government and the U.S of Army Corps at the nexus of flood control and stormwater management and reuse.

Since the bill was passed, it is our understanding that other cities are already preparing and planning to successfully qualify for these federal funds. The recommendations in this memo will help provide a roadmap to the City of Los Angeles on how to prepare for qualifying and obtaining these federal funds.

Below describes the few examples of current funding opportunities and the types of projects it funds.

[1] Details regarding the California Water Bill can be found in the following link: https://www.congress.gov/bill/114th-congress/house-bill/5303

2.2.1 Water Infrastructure Improvements for the Nation Act

This bill revises or authorizes USACE water resources development projects, feasibility studies, and relationships with nonfederal project sponsors. It establishes a process to deauthorize projects with an aggregate estimated federal cost to complete of at least $10 billion.

- Signed into Law – December 16, 2016
- It sets forth requirements concerning:
  - Harbor operations and maintenance, emerging harbors, donor ports, and energy transfer ports
  - Navigation and flood management projects
  - Reservoir operations and storage allocations
  - Dredging alternatives
  - Floating cabins
  - Dam repair
  - Aquifer depletion
  - Aquatic invasive species
  - Permits to occupy, use, or alter certain public works
- To assist states, the bill contains provisions for:
  - Drought emergencies
  - Regional district flood damage reduction projects
  - Combined funding in groups of states
- Within the bill, Title IV (Water Resources Infrastructure) authorizes and sets forth conditions in California for:
  - Flood Risk Management Projects
  - Hurricane and storm damage risk reduction projects

2.2.2 Flood Risk Management, Ecosystem Restoration, and Recreation Projects Measure M - Los Angeles County Traffic Improvement Plan

Measure M is a county-wide sales tax surcharge that will fund improvements to the transportation system in the County. Many of these projects will benefit the City's stormwater compliance obligations, because existing transportation rights of way are significant portions of the impervious surface area within the City, and the development of new transportation facilities will comply with the City's LID Ordinance. Measure M is a half-cent sales tax increase that will allocate over $850 million per year to improving transportation and mobility options for all in Los Angeles County.

- Approved November 8, 2016.
- 17 percent of revenue for local cities to repair local infrastructure (fixing streets and sidewalks)

- Measure M commits to integrate Complete Streets and Green Streets into street repair
  - Green Streets – LA Sanitation is leading the effort to design streets and sidewalks to capture runoff and infiltrate it through a variety of best management practices including:
    - landscaped bioswales with drought tolerant plants
    - permeable pavements
    - sub-surface infiltration system
    - dry wells
  - Complete Streets – a movement centered on redesigning streets so that they better accommodate multiple users. A "Complete Streets Design Guide" was adopted as a companion piece to the City's Mobility Plan 2035.

- Measure M has also reserved funding for ongoing program cost of:
  - Safe Routes to School
  - Public education campaigns
  - Open Streets and Bike Share

- Measure M also includes funding for Completing the Los Angeles River and San Gabriel Valley Greenways
  - Bicycle network
  - Recreation

2.2.3 Safe Sidewalks LA

Approved by City of Los Angeles Council on November 30, 2016, the program aims to set aside $1.4 billion over the next 30 years to fix sidewalks around the city and make them accessible to everyone. The program also offers a limited number of rebates to property owners who are willing to fix their own sidewalks.

- The repair program will address broken sidewalks and will prioritize repair requests from people with disabilities, their families and caretakers

- Opportunities to help implement Green Street designs as part of the retrofit include:
  - Tree wells
  - Curb cuts
  - Permeable pavement
  - Dry wells

2.2.4 Measure A – The Los Angeles County Safe, Clean Neighborhood Parks and Beaches Measure

Measure A is a Los Angeles County measure passed in November 2016 that authorizes general obligation bonds for construction of new parks and open space, and includes project elements to improve stormwater management in those projects. LASAN has developed several strong partnerships with the Los Angeles County Department of Recreation and Parks (LACDPR) and Los Angeles Department of Recreation and Parks (LARAP) where recreational benefits, open space values and stormwater quality improvement were all realized in multi-benefit projects.

- Approved November 8, 2016
- Measure A will be used to upgrade parks and recreation centers and will allow for implementation of
  - Drought-tolerant plants
  - Recycled water use
  - Stormwater Capture and Reuse
- Opportunity for Regional Projects

2.2.5 Proposition 1 – The Water Quality, Supply, and Infrastructure Improvement Act of 2014

Authorize $7.12 billion in general obligation bonds for state water supply infrastructure projects.

- Approved November 4, 2014
- Type of projects include:
  - Public water system improvements
  - Surface and groundwater storage
  - Drinking water protection
  - Water recycling and advanced water treatment technology
  - Water supply management and conveyance
  - Wastewater treatment
  - Drought relief
  - Emergency water supplies
  - Ecosystem and watershed protection and restoration.
- According to the Proposition 1 Allocation Balance Report, as of December 2016, the balance for the Water Bond is approximately $1.67 billion.

3.0 PROJECT ADVANCEMENT AND VIABILITY

In order to determine the feasibility of a project receiving and being selected for funding, a set of Decision Tables were created specifically for the City of LA and for this TM. Developing an internal approval process and instructions on which funding opportunities to pursue is modeled on approaches that are typically used by the private sector. Deciding whether or not to proceed involves analyzing information and data known about the requirements of the funding agency, how onerous the reporting requirements are, the associated resources required to administer the grant, and the likelihood of receiving the grant based on the projects' attributes.

Several considerations need to be made in order to determine if the City should invest time and resources. Considerations that the City will need to evaluate can be categorized as either financial or management. Table 2 presents an overview of the financial and management considerations required and which are addressed in the Decision Tables.

Table 2 Considerations for Funding Analysis
One Water LA 2040 Plan – TM 4.2

Financial Analysis	Management Analysis
• Grant-funded project amount/ matching funds	• Project manager availability
• Funding agency requirements (technical and financial)	• Project manager skill sets
• Partnerships and City financed amount funding (labor vs. capital)	• Staffing resources and availability
• Total project cost	• Internal and External City Partnerships and resource allocation of tasks
• Labor	• Quantitative and qualitative water benefits
• Operations and Maintenance	• Overall City and project benefits
• Grant-funded project amount/ matching funds	

These Decision Tables are aimed at capturing information about the funding agency and their objectives, odds of receiving funds, and funding criteria. These tables help to clarify actions to take and what is required and/or needed to be successful in obtaining funding. These tables are tools to:

1. Gather necessary information and complete Tables A1-A7 (Appendix A)
2. Develop a strategy for how to best approach a funding proposal

Once the information is obtained, the proposed strategy for pursuing a funding opportunity will need to be approved. Figure 3 presents the proposed process of determining funding viability.

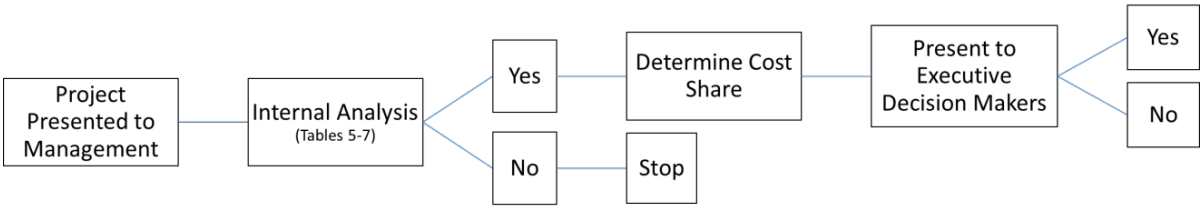

Figure 3 Funding Viability Process

Below is a list of all seven tables with descriptions of their purpose and use. Tables A1-A7 are presented in Appendix A.

- Table A1 – Project Information
  - Table A1 provides a summary of the grant-seeking project. The summary includes all the information necessary to identify the funds or grants for which it is most suited.
- Table A2 – Grant Information
  - Table A2 provides a brief summary of the types of grants the City may wish to pursue. The information on Table A2 will help determine the feasibility of applying for the grant. This table also provides important deadlines, such as the deadline for comments on the guidelines. Providing comments to the guidelines is key to help assure the grant will cover the types of water related projects the City is looking to implement.
- Table A3 – Project Team
  - The purpose of Table A3 is to delegate the key roles to each team member of the grant team. As described in Table A3, the grant team is defined as a group of people developing a proposal for a specific grant.
- Table A4 – Strategy
  - All previous tables support the information in Table A4: Strategy Development. Table A4 will help identify the key components (benefits, attributes, goals) of the project that need to be included as part of the grant proposal. Table A4 also identifies the meetings and actions items necessary to develop a successful proposal.

- Table A5 – Funding Background/History
  - The purpose of Table A5 is to provide an insight to the primary goals of the grant. The table will also provide information on the background/history of the grant, which will ultimately be used to develop the best strategy for developing the grant proposal.
- Table A6 – Funding Agency Structure
  - Table A6 goes behind the scenes of the grant to help identify the key decision makers for selecting the grantee. Reaching out to these individuals will help provide beneficial input when developing the grant proposal.
- Table A7 – Other Applicants
  - The purpose of Table A7 is compare the project's advantages and disadvantages to other potential applicants. Table A7 will help identify the gaps and the key issues the grant proposal will need to address.

4.0 MAKING THE DECISION TO APPLY

There are numerous types of water projects and programs within both the City departments and Regional entities. Complementing the existing projects and programs listed in each Department's annual Capital Improvement Plan (CIP) will be a top priority when determining which projects should apply for funding opportunities.

The following process is recommended after project identification when deciding which project or which funding source to expend resources in developing a strategy and application. The purpose of the process, presented on Figure 4, is to identify which grants are worth pursuing based on the information obtained and the amount of City resources available.

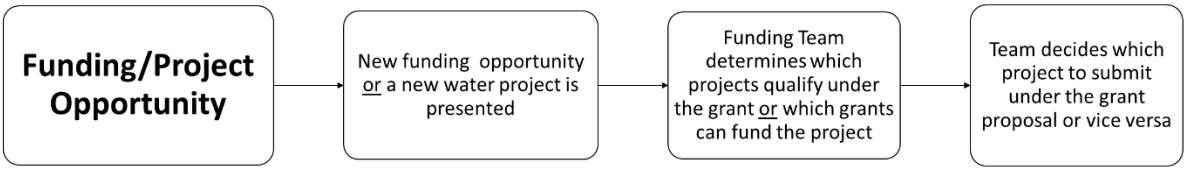

Figure 4 Grant Decision Making Process

5.0 RECOMMENDATIONS AND NEXT STEPS

Below summarizes recommended next steps if establishing a process and the use of the Funding tools for the City of Los Angeles:

- Create a workshop(s) to review the tools (Tables A1-A7) with those City departments that are interested
- Determine if there is an inter-departmental committee to create for shared water-funding opportunities
- Begin developing a list of projects that are based on City department CIPs – focus on One Water LA's list and include Water Quality, Water Supply, and Flooding.
- Create a list and target specific funding opportunities for the next 18 months
- Begin use of the tools and prioritize projects and funding opportunities
- Develop a useful mechanism to document the lessons learned from previous successful and unsuccessful grant applications.

APPENDIX A – DECISION TABLES

LIST OF TABLES

Page No.

Table A.1 Project Information			
Project Information			**Notes**
Potential Funding Sources			
	Name	Description	
1			
2			
3			
4			
5			
Proposed City Project Manager			
	Name		
	Contact Information		
City Department			
Department's CIP			
	Is the project currently listed in a CIP? If so, what year?		
	Is there a Department Division managing this project?		
Grant/Funding Program Description			
Recommended Applicant(s) - City, Department, Regional Entity, etc.			
	Lead		
	Supporting Agencies		
Application Due Date			
Funded Project Timing/Schedule Requirements			

Table A.1 Project Information			
Project Information			**Notes**
Estimated Cost (s)			
	Capital		
	O&M		
Shared Cost (s)			
	Matching Funds		
	Interagency collaboration on costs (Capital and O&M)		
Key Project Benefits To City			
Other Benefits - To others, including funding agency			
Project Challenges - Design, construction, political, etc.			
Political Interest			
	High/Medium/Low		
Technical Approach - new technologies, innovation, standard			
Technical Issues and Strategies			

Table A.2 Grant Information			
Grant Information			Notes
Grant Type			
	Federal/State/Local/ Other		
Grant Title			
Administering Agency			
	Funding Agency		
	Website		
Funding Agency's Mission or Goals			
Grant Description			
Eligibility Requirements			
Grant Agency Application Manager			
	Name		
	Contact Information		
Grant/Funding Program Name			
Location/ Office			
	Address		
Grant/ Funding Program Description			
Grant/ funding Timing/Schedule			
	Guideline Development Period		
	Guideline Comments Due		
	RFP Due Date		

Table A.2 Grant Information			
Grant Information			**Notes**
Matching Requirements			
	Yes/No		
Max project funding amount			
	Max/Min		
If project receives funding, will the completed project meet City Goals and Objectives?			
	Economic		
	Political		
	Individual department CIPs		
	Yes/No		

Table A.3 Project Team			
Project Team			**Notes**
City's Grant Writing Team			
	Role	**Key Personnel**	
1	Grant Team Manager		
2	Grant Project Manager		
3	Technical Team		
4	Graphics		
5	Maps		
6	Data Gathering		
7	Others		
City's Grant Project Team			
1	Project Manager		
2	Assistant Project Manager		
3	Technical Review		
4	Other Technical Assistance		
Partnerships			
	Dept./Agencies/ NGOs/Private Company/Other	**Role**	**(Contact/Contact Info)**
1			
2			
3			
Consultant (if needed)			
	Firm/Contact	**Role**	
1			
2			

Table A.3 Project Team			
Project Team			**Notes**
Proposal Review Team			
	Name	**Dept./Agencies/NGOs/ Private Company/Other**	
1			
2			
3			
Grant Schedule and Deadlines			
		Due Date	
	Draft		
	Comment Period		
	Draft 2		
	2nd Comment Period		
	Final Proposal		
Management Approval			
	(Dept./Agencies/ NGOs/Private Company/Other)	**Initials**	
1			
2			
3			

Table A.4 Strategy			
Strategy			**Notes**
What are the funding agency's top three project goals/needs?			
	Goal	**How does the project meet the agency's goal?**	
1			
2			
3			
Funding Agency's Principles for Success			
	Ways to ensure the proposal will meet and address the agency's principles of success		
Funding Agency's Grant Review Team Key Issues			
	Name	**Ways to address key issues on the proposal?**	
1			
2			
3			
Project and Funding Agency Understanding			
	Funding agency needs/wants	**How the project provides**	
1			
2			
3			
	Funding Agency Benefit	**City Examples**	
1			
2			
3			

Table A.4 Strategy			
Strategy			**Notes**
Technical Approach			
Meetings/Call with Funding Agency			
	Description/ Strategy	**Date/Notes**	
1			
2			
3			
Actions needed to improve the project's ranks			
1			
2			
3			
Action Plan			
	Action Items	**Responsible/Due Date**	**(Status)**
1			
2			
3			
4			
Management Approval			
	(Dept./Agencies/ NGOs/Private Company/Other)	**Initials**	
1			
2			
3			

Table A.5 Funding Background/History			
Grant Background Information			**Notes**
Objectives - Why is the funding agency financing the program?			
Political Issues and/or drivers with Grant Funding			
What are the funding agency's top three goals/needs in expending the monies?			
1			
2			
3			
What types of projects will support the agency's goals for these funds?			
What types of projects and to whom has the agency awarded funds before?			
	Grantee	**Project Description**	
1			
2			
3			
4			
5			

Table A.6 Funding Agency Structure - Roles & Responsibilities			
Administering Agency			**Notes**
Funding Agency's Grant Review Team- key contacts involved in final project selection			
	Name	**Key Issues**	
1			
2			
3			
Has the City talked to the grant review team, either in person or by phone (those listed above)? If yes, what is the relationship and/or history?			
	Yes/No	**Relationship and/or History**	
1			
2			
3			
Grant Review Team's trusted advisor(s)			
	Name	**Relationship to the agency's program**	
1			
2			
3			
Other Stakeholders?			
1			
2			
Are there any stakeholders that want to block funds or dissenters of this effort? Any background on their relationship with the funding agency?			
	Yes/No		
	If yes, which groups and why?		

Table A.6 Funding Agency Structure - Roles & Responsibilities			
Administering Agency			**Notes**
Does the City need to discuss the project benefits to those making the decisions on who to select? Phone, presentation, meeting?			
	Yes/No		
	If yes, which groups and why?		
Most critical issues, goals, or price for the grant's final decision maker(s).			
Is there one person or a final decision maker or approver in the project selection? Or is it all by committee?			
	Name		
	Contact Info		

Table A.7 Other Applicants			
Other Potential Applicants			**Notes**
Other Potential Applicants			
	(Dept./Agencies/ NGOs/Private Company/Other)	**Advantages and Disadvantages**	
1			
2			
3			
4			
Are there any issues/concerns that the funding agency may have in selecting this project? And/or the team and partners?			
	Issues/Concerns	**How to overcome**	
1			
2			
3			
What key items underscore our (City's) value/benefits? Why select the City of LA over another City/Agency?			
	Key Items (Value/Benefits)	**Projects Strengths**	
1			
2			
3			
4			
What prior proposals have been submitted to the Funding Agency? Was the project considered successful?			
	Project & Year Submitted	**Project Components**	**Successes/ Highlights**
1			
2			
3			

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